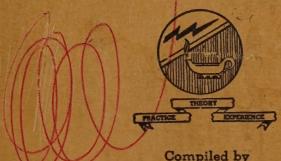
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1926-1938 RADIO DIAGRAMS

and Servicing Information



Compiled by

M. N. BEITMAN

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1926-1938

RADIO DIAGRAMS DIAGRAMS

and Servicing Information

PREPARED UNDER THE DIRECTION OF

M. N. BEITMAN

B.S. in Mathematics, Illinois Institute of Technology Radio Instructor, Chicago High Schools Formerly, Engineer, U. S. Signal Corps Associate, Institute of Radio Engineers Holder of Radiotelephone First Class License Author of Many Radio Books and Articles



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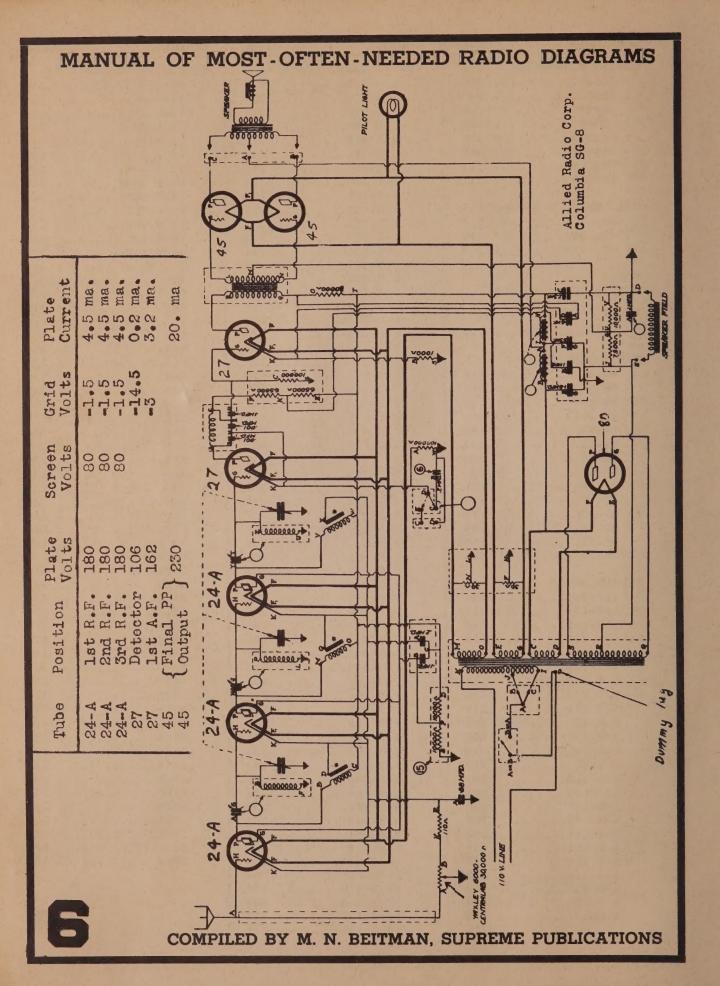
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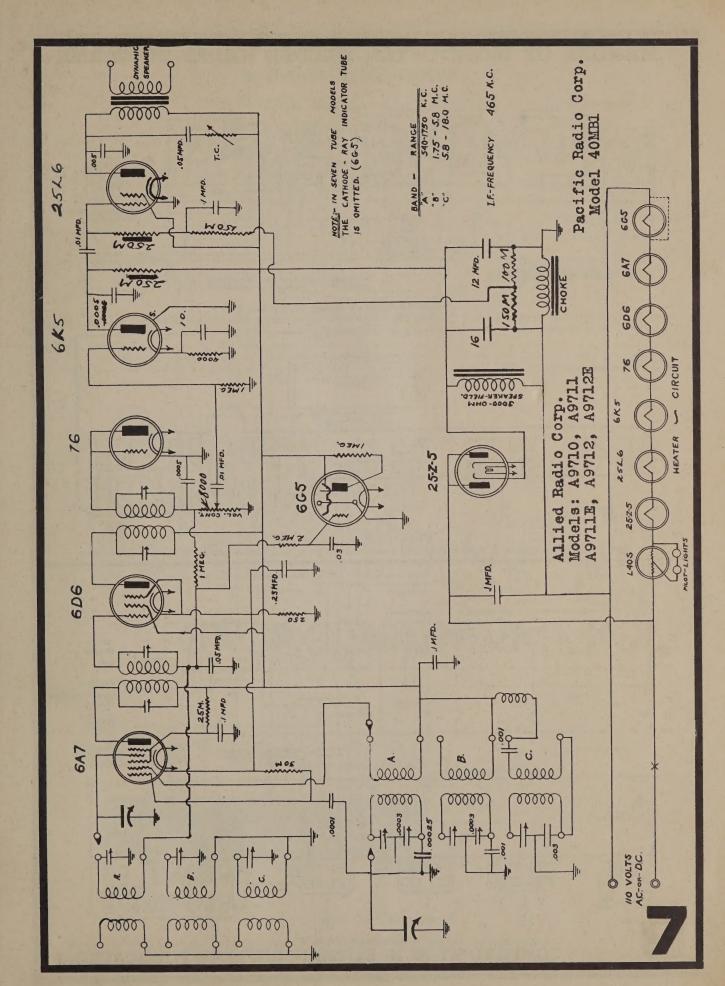
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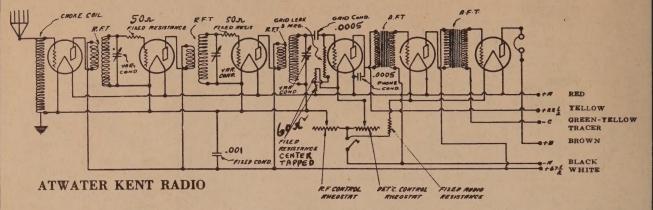
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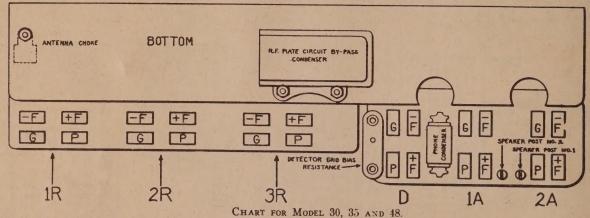


MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS MODEL 30, 32, 35 AND 48

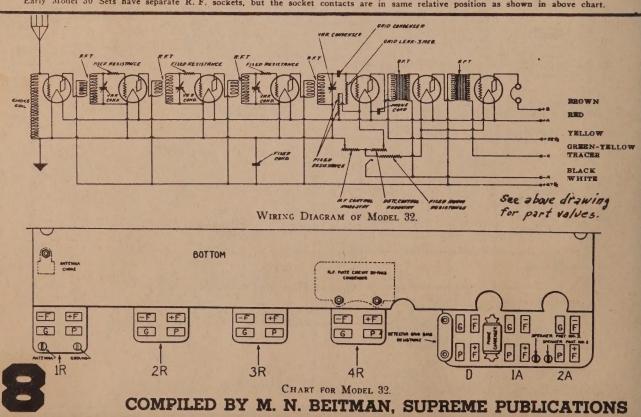


WIRING DIAGRAM OF MODEL 30, 35 AND 48.

In Model 35, one rheostat controls the three R. F filaments and a fixed resistor is connected in series with the detector and two A. F. filaments.

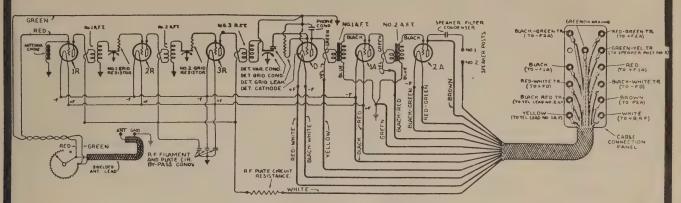


Early Model 30 Sets have separate R. F. sockets, but the socket contacts are in same relative position as shown in above chart.



ATWATER KENT RADIO

MODEL 37, 37-F. 37-C CHASSIS



WIRING DIAGRAM OF MODEL 37, 37-F, 37-C.

A 2nd-A. F. filament-shunt resistor is used before Serial No. 1,385,000, in which case speaker post No. 2 connects to the centre-tap of this resistor, and the green-yellow tracer lead is not used. The R. F. plate circuit resistor is used after Serial No. 1,385,000.

In Model 37-C the on-off switch is connected to the two terminals on either side of the ground eyelet. A 2nd-A. F. filament-shunt resistor is used in the chassis of all Model 37-C receivers.

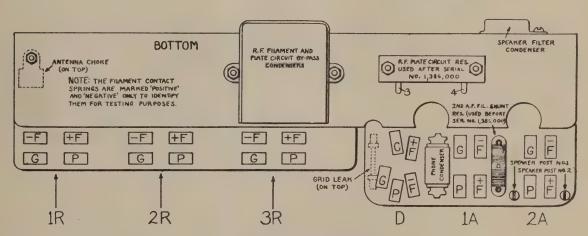
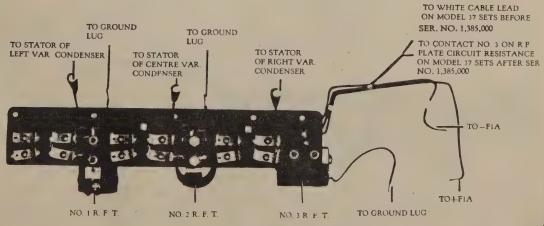


CHART FOR MODEL 37, 37-F, 37-C.

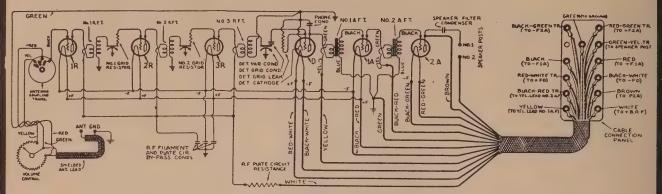


VIEW OF R. F. AMPLIFIER.

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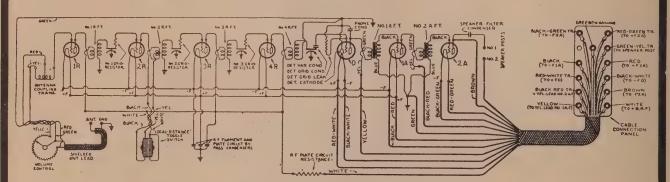
ATWATER KENT RADIO

MODEL 40, 40-F, 42, 42-F, 44, 44-F, 45, 52, 56 AND 57 CHASSIS

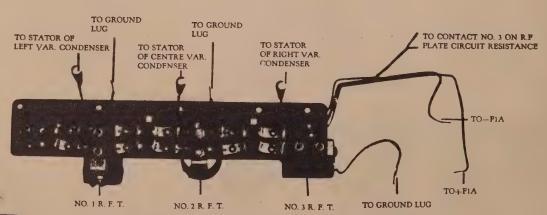


WIRING DIAGRAM OF MODEL 40, 40-F, 42, 42-F, 52, 56 AND 57.

Model 52 does not have the shielded antenna lead, but is provided with two twenty-foot leads which are connected to the volume control, black antenna and black-green tracer for ground. Model 56 and 57 have antenna and ground posts at the bottom of the cabinet.



WIRING DIAGRAM OF MODEL 44, 44-F AND 45.

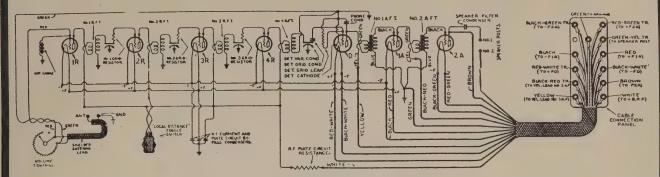


VIEW OF R. F. AMPLIFIER ASSEMBLY IN MODEL 40, 40-F, 42, 42-F, 52, 56 AND 57.

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ATWATER KENT RADIO

MODEL 38 CHASSIS



WIRING DIAGRAM OF MODEL 38.

A 2nd-A. F. filament-shunt resistor is used before Serial No. 1,752,000 and the green-yellow tracer cable lead is not used.

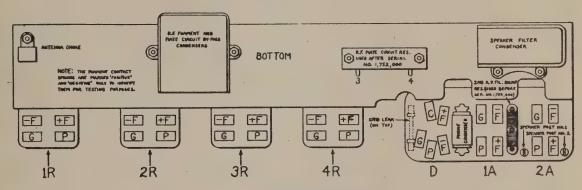
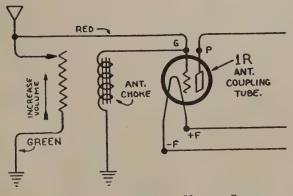
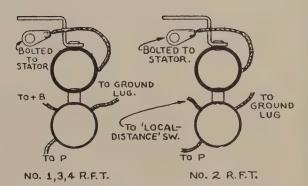


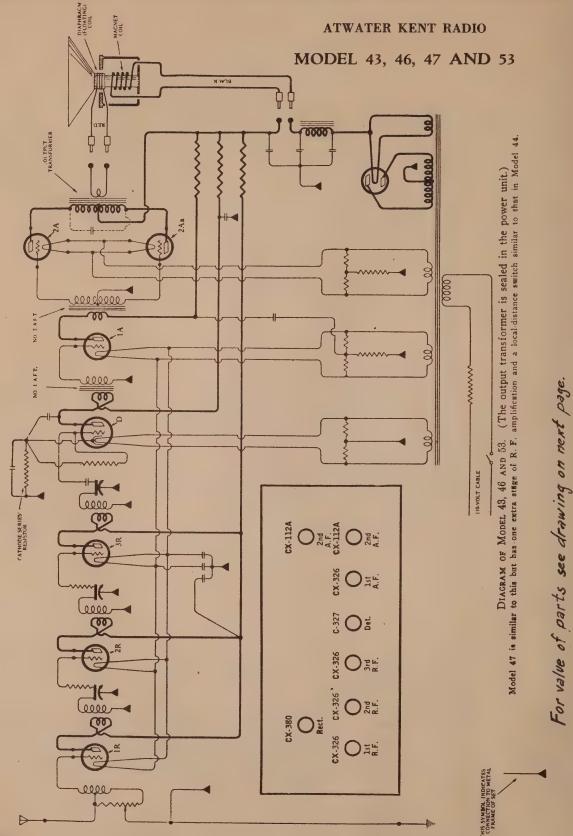
CHART FOR MODEL 38.



SCHEMATIC DIAGRAM OF VOLUME CONTROL IN MODEL 37, 37-F, 37-C AND 38.

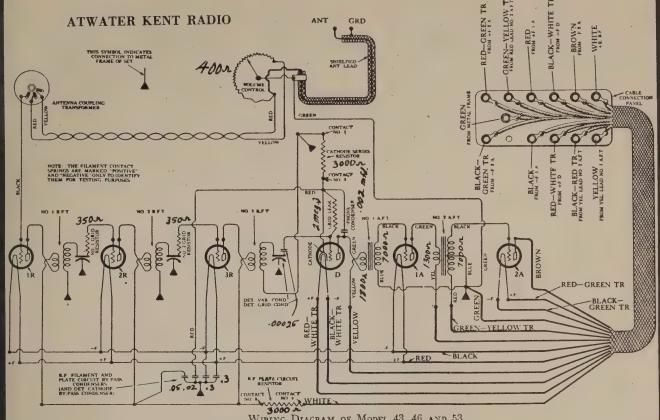


Sketch Showing Connections From R. F. Transformers, Model 38.



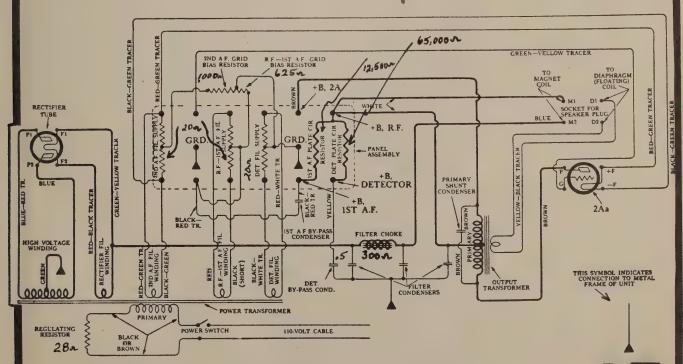
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MODEL 43, 46, 47 AND 53 DIAGRAM



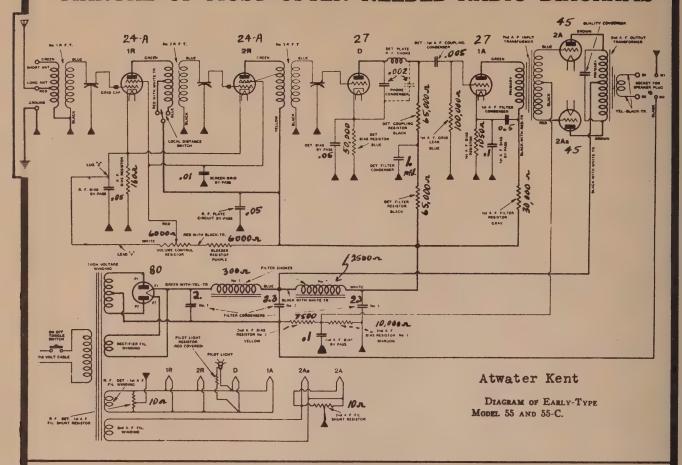
WIRING DIAGRAM OF MODEL 43, 46 AND 53. The +B, 1st A. F. cable lead is black with a red tracer.

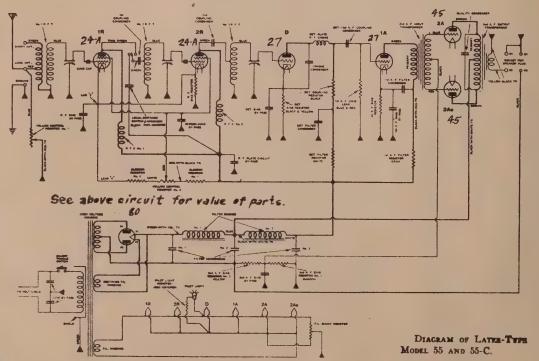
Model 47 is similar but has one additional stage of R. F. amplification and a local-distance switch like that on Model 44.



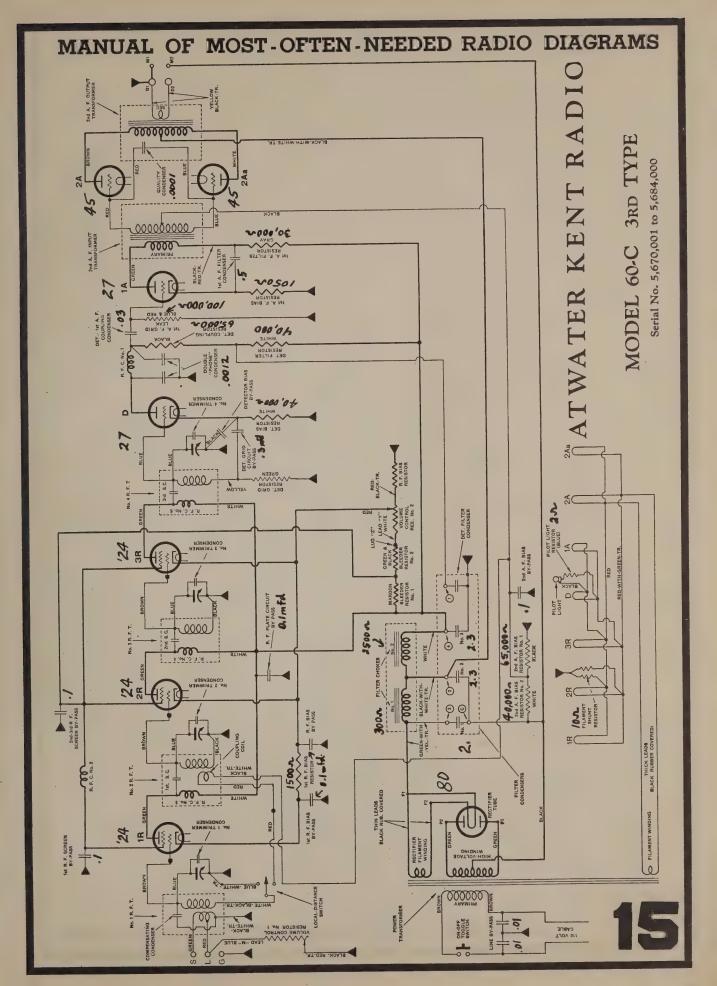
WIRING DIAGRAM OF POWER UNIT IN MODEL 43.

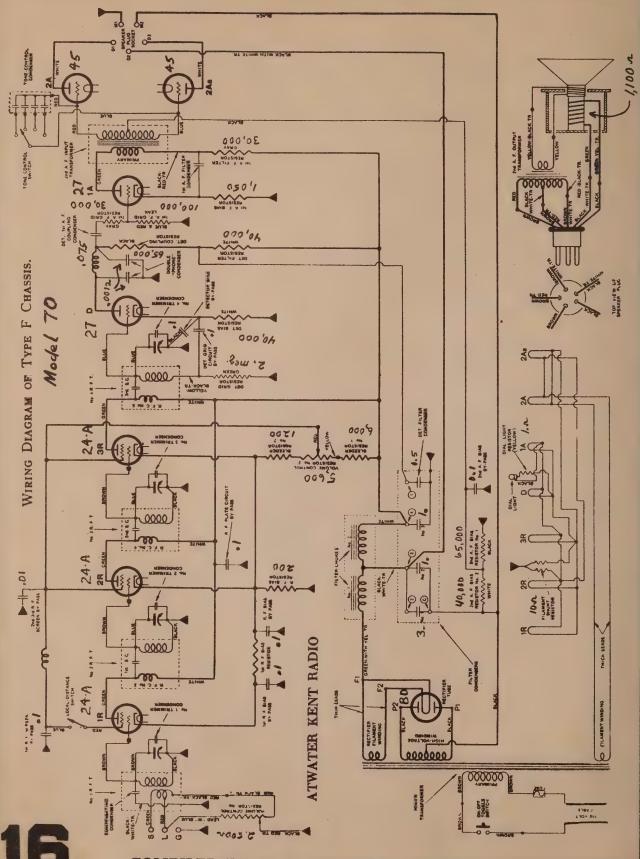
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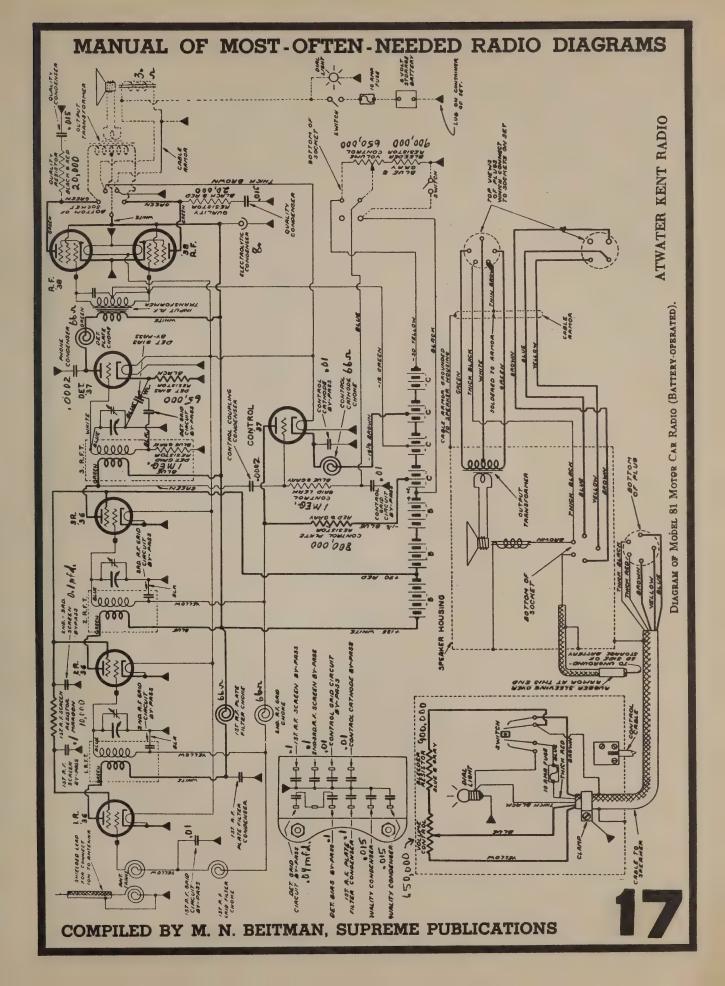




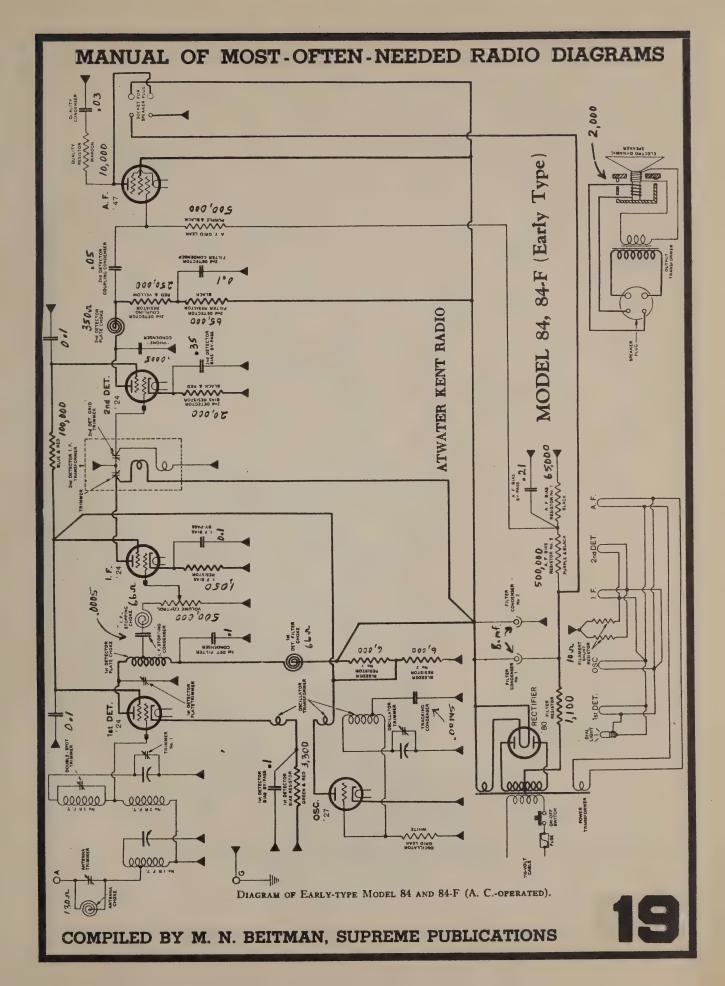
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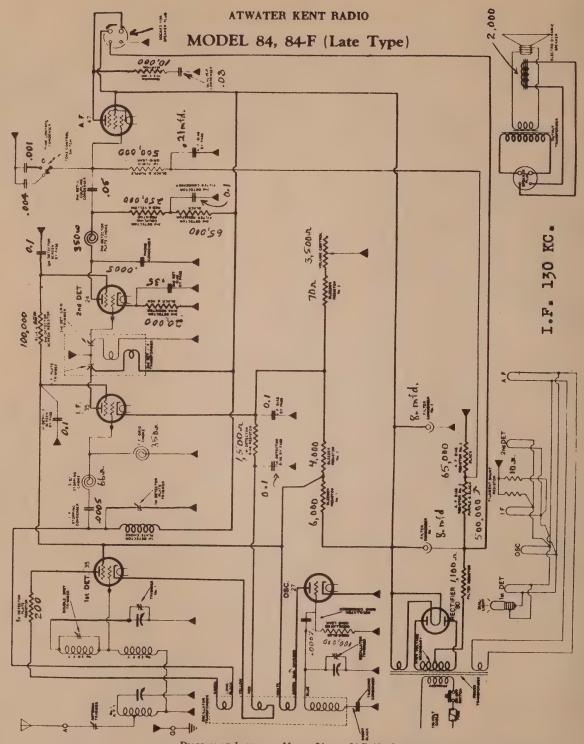






MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS DOOD Atwater Kent Mfg. Models 82, 82F, 85, 85F 8000 JH. **7** I.F. 130 KC. 200 [. 4008 33 27 lee LOLOLO 00000 COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

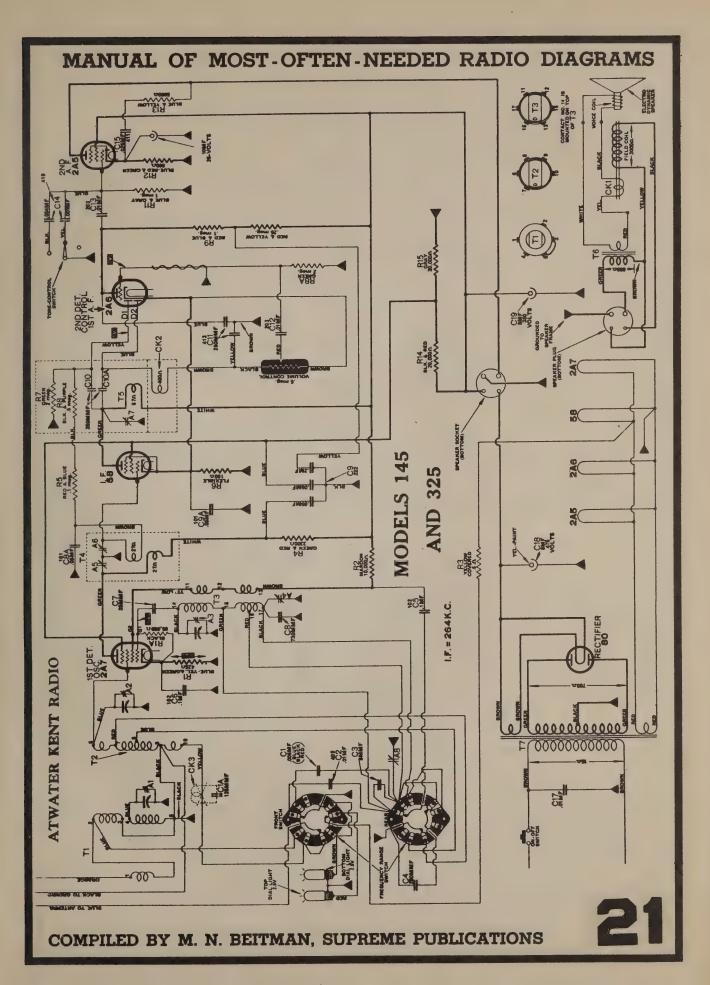




A few inte-type Model 84 and 84-F receivers have slightly different oscillator transforms, as explained in the notes accompanying the parts list for these sets.

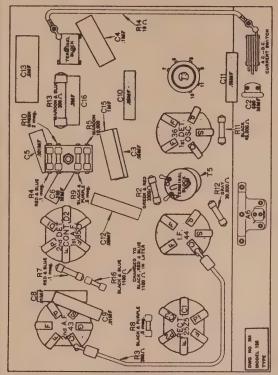
The filter resistor shown in the above diagram is NOT used in Model 84-F.

This set bas a latt-detector plate filter choke and condenser not shown in the diagram.

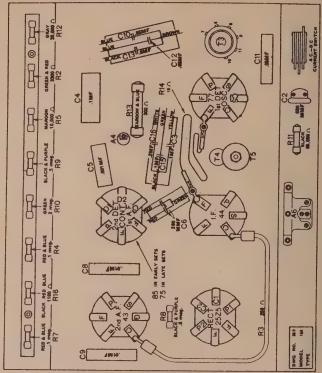


ATWATER KENT RADIO

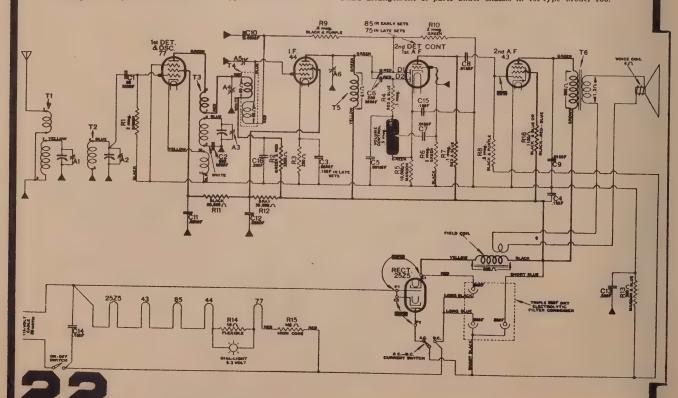
MODEL 155, 1st TYPE, Below Serial No. 7086900

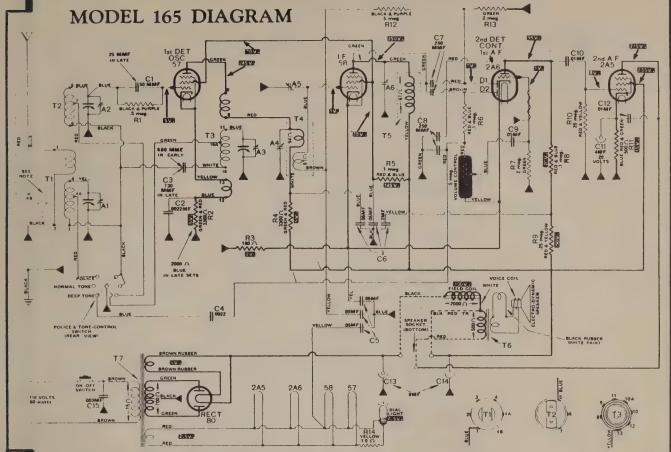


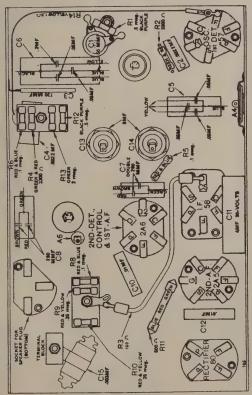
First arrangement of parts under chassis in 1st-type Model 155.

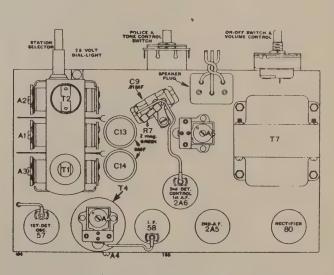


Third arrangement of parts under chassis in 1st-type Model 155.









In late type 165, the 1st-detector bias resistor $\,R2$ is 2000 ohms, $\,\S_{3}$ watt (blue).

In a few early 165 sets, the tracking condenser C3 is 680MMF.

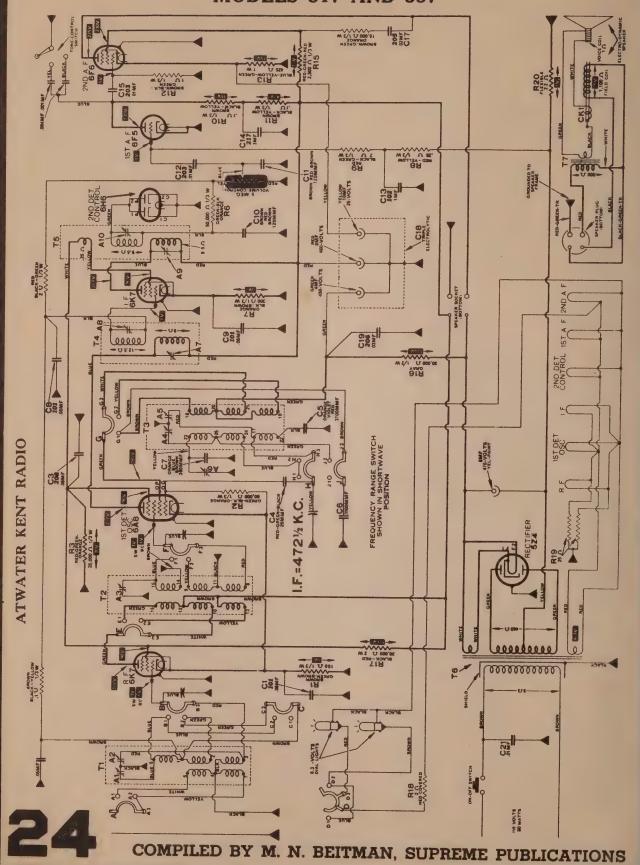
In late sets, C1 is 25MMF instead of 50MMF.

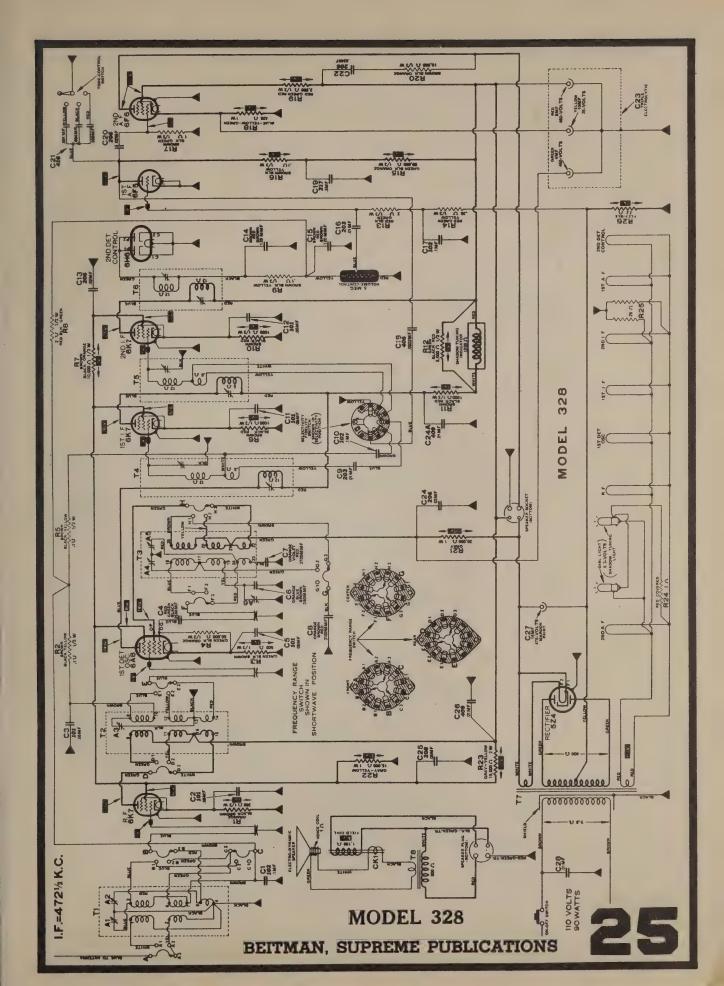
The additional primary, shown in dotted lines on No. 1 R.F.T., is used in some 165 sets.

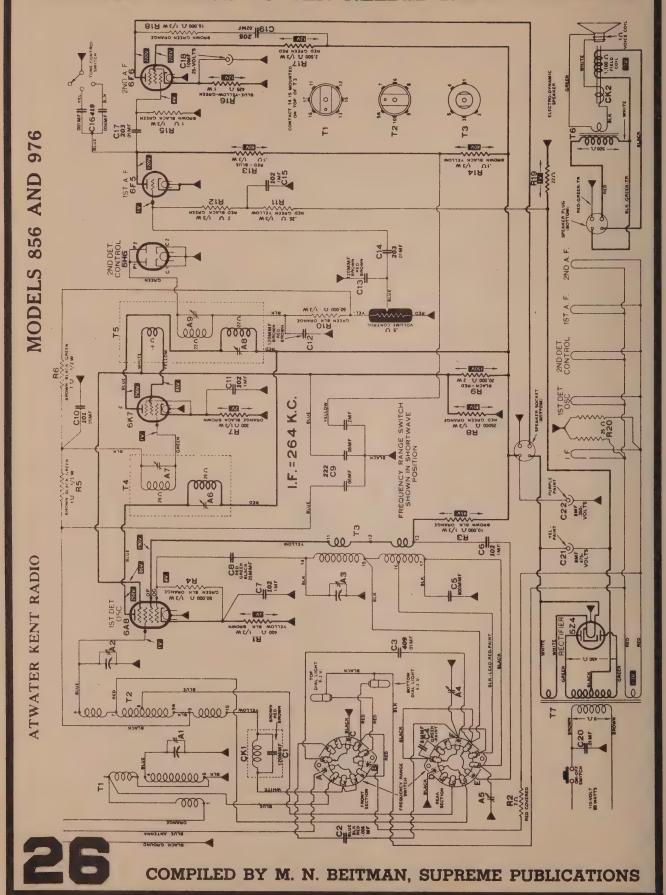
I.F. 262.5 KC.

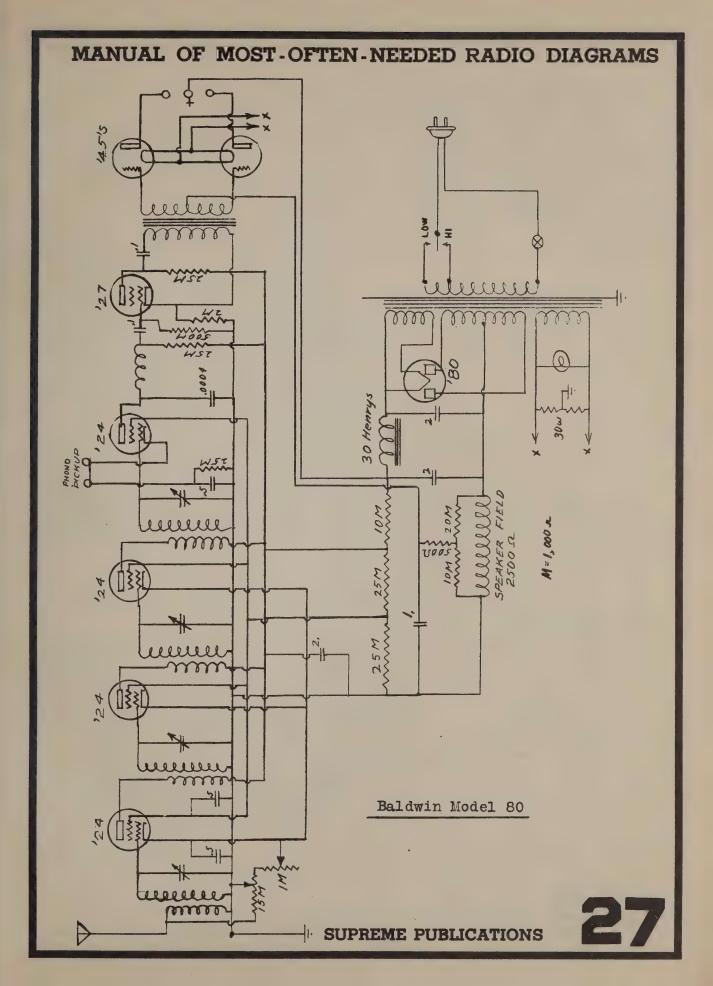
COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

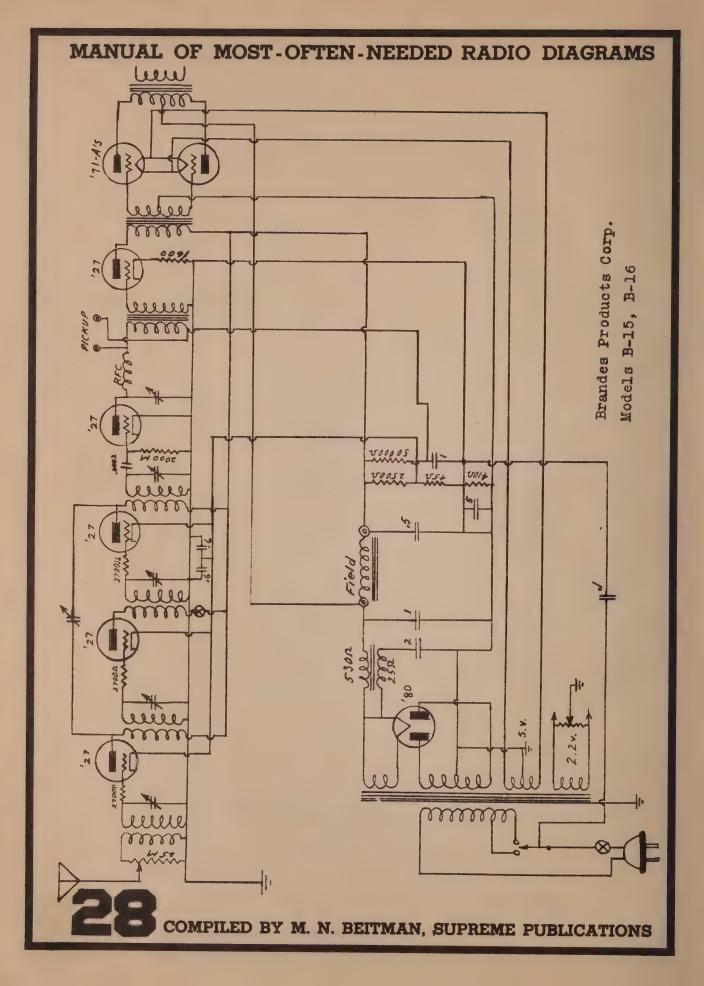
MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS MODELS 317 AND 337

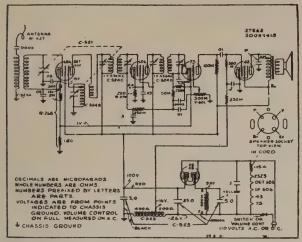






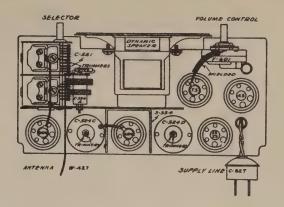






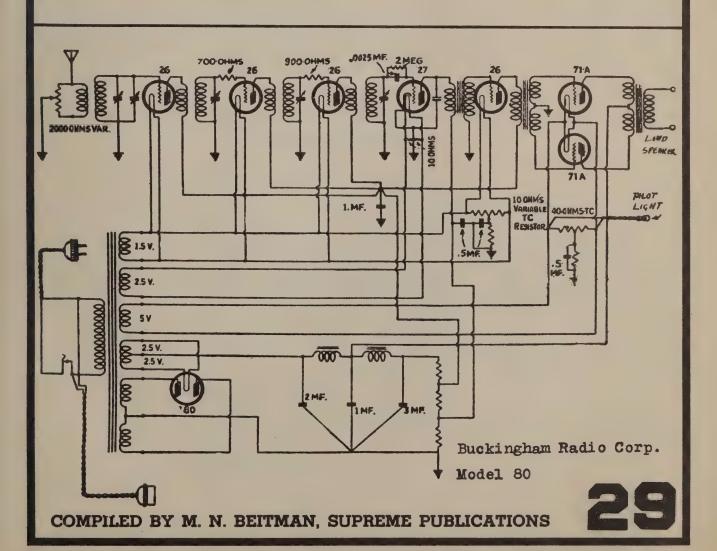
Schematic circuit diagram Model 323 AC-DC Superheterodyne, with automatic volume control Should it be necessary, at any time, to rebalance this set the procedure is as follows: Attach a 456 kilesycle oscillator to the grid of the 606 tube in bank of the variable condenser and adjust the trimming rendensers of the 1. F. transformers to maximum deflection on an entput mater connected across the primary of the speaker input transformer. While adjusting these trimmers, the variable condenser should be at the maximum sapacity position—at the extreme right of its rotation.

Next disconnect the antenna wire and connect an exciliator in series with a 73 mmf. condenser to the antenna coil. Relate the condenser plates to the minimum capacity position—
strome left turn, and adjust the trimmer condenser plates to the minimum capacity position—
strome left turn, and adjust the trimmer condenser of the root section of the variable condenser to
resonance with an oscillator set at 1725 kilosycles, then adjust the condenser of the front section
of the variable condenser to resonance. Align at 1400—1200—1010—600—600—600 kilosycles,
Lend slotted plates of variable condenser if necessary.

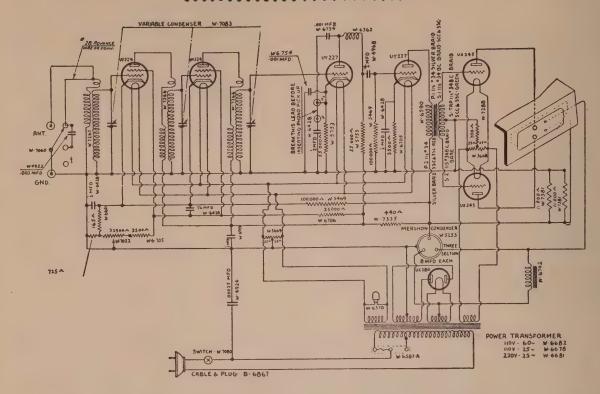


Belmont Radio Corp.

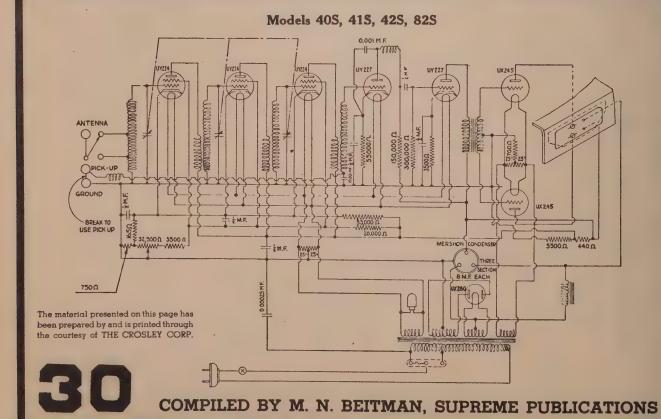
MODEL 525



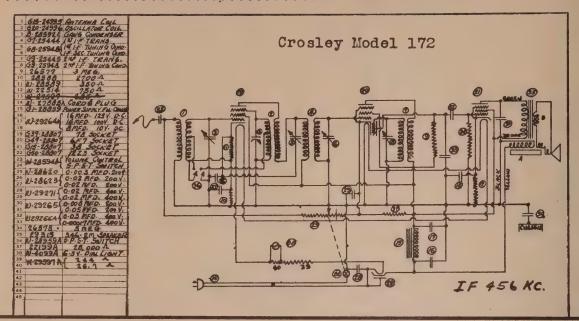
MODELS 30S, 31S, 33S, 34S.



Crosley Corp., Cincinnati, Ohio



MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS Wiring Diagram For Model 5B3 (E)(E) (3) The Crosley Corp. Figures in first column correspond to figures in diagram Volume Cont. 10,000 Ohms (7) Air Cell Resistor .53 Ohms **LETTOM** 0.02 Mfd. 200 Volt 0.25 Mfd. 200 Volt O.1 Mfd. 200 Volt 1.0 Mfd. 160 Volt 1A6 Flex. Socket Switch 3. P. S. T 336-3B Speaker Speaker Cable 500,000 Ohms Battery Cable GREEN 1.100 Ohms 5,000 Ohms BROWN 7.000 Ohms 1A6 Socket 1 Megohm 33 Socket 34 Socket 006 Mfd TUBE 33 -24049-B 30321-A 29910-A -27975 30418 L. 21454 24814 28619 27933 29237 27975 23300 456 Kg. G55 G31 SEI+ KED 00015 Mfd. 400 Volt 0001 Mfd. 400 Volt HHLE +67 R. F. Transformer 0.1 Mfd. 200 Volt 02 Mfd. 200 Volt 0.1 Mfd. 200 Volt 02 Mfd. 200 Volt .025 Mfd. (Mica) 2nd I. F. Trans lst I. F. Trans. 500,000 Ohms 100,000 Ohms Oscillator Coil 60,000 Ohms 1 Megohm IAG KETTOM ON 24049-B 24049-B 26152-A 21237-A 21875 32004 34004 32002 32004 23785 -32001 28621 28621 G13 65 -SS CBEEN \triangleright M # 9 12 4597 13



Control Grid Voltages

Pentode ..0.5 to 1.5 1s. F.1,5 to 2.5 (20-30 vol. cont. off) 1st Det. ..5.5 to 7.5 2nd Det. ..4.0 to 6.0

Filament Voltages

All	tubes	but	rectifier	2.3 to 2.5
Rec	tifier	tube	************	4.6 to 5.0

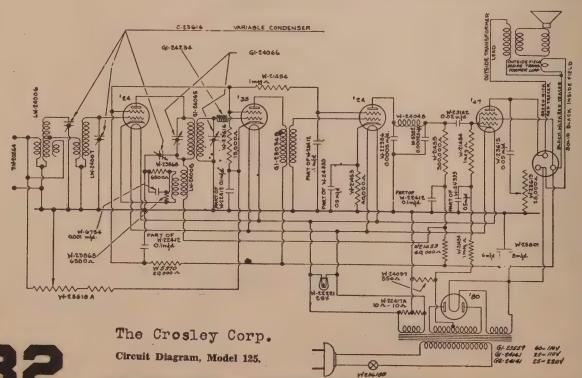
Screen Grid Voltages

Pentode ..200 to 230

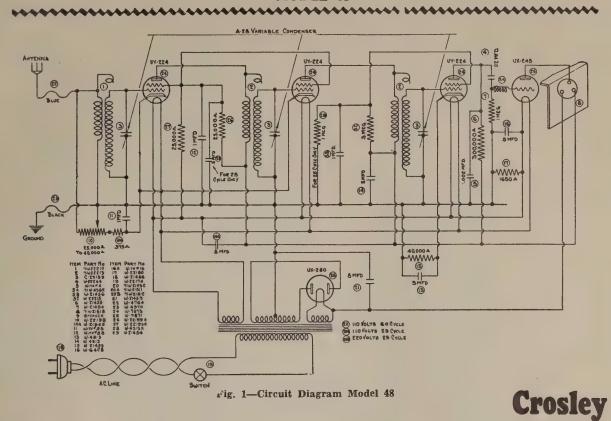
Plate Voltages

Pentode 200 to 230 I. F. 200 to 230 1st Det. .160 to 180

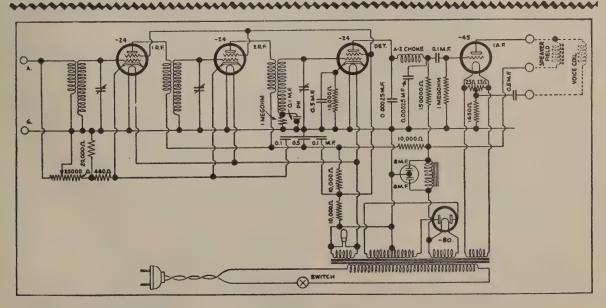
2nd Det. 75 to 90 (250V scale), 20-30 (50V scale)



MODEL 48

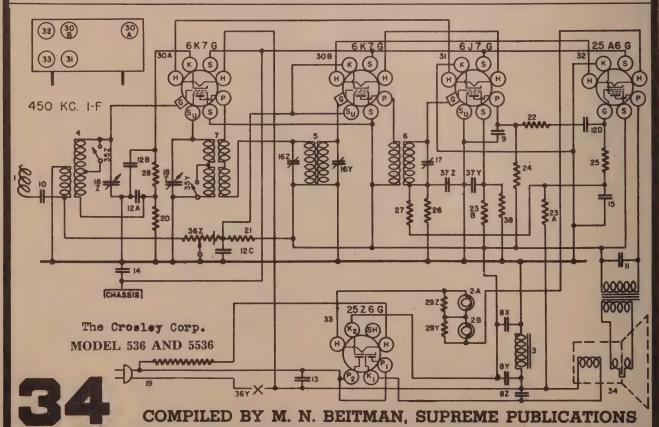


Models 53, 54 and 57



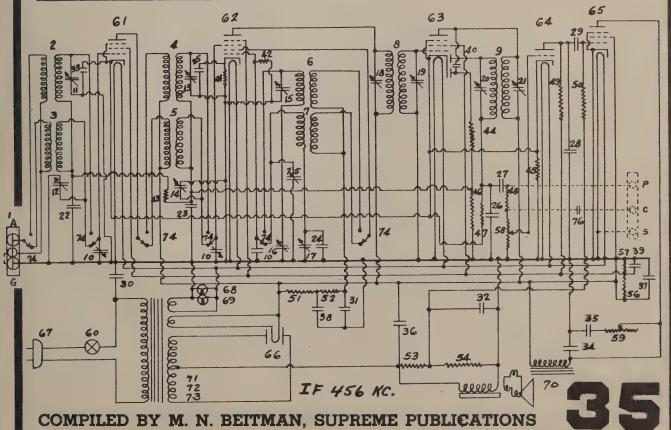
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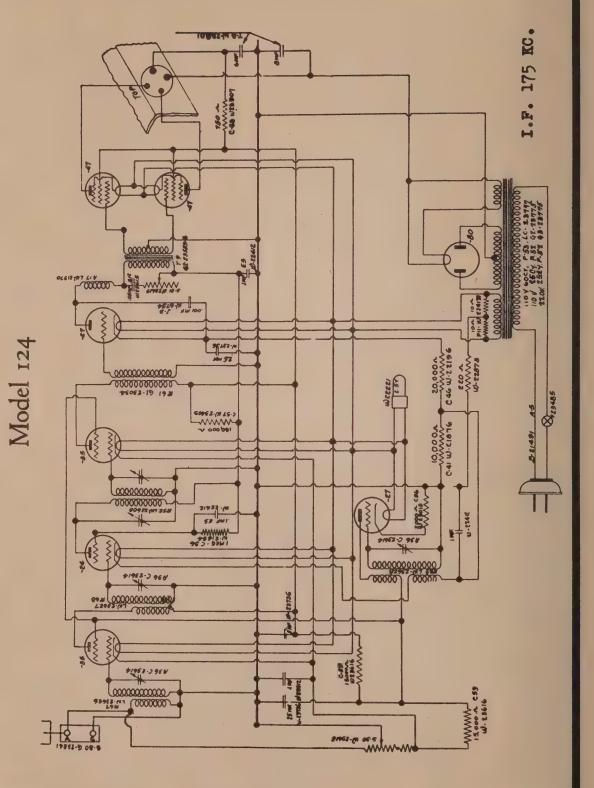
Figures in first column refer to parts in Diagrams.							
Item No.	Part No.	Description	Item No.	Part No.	Description		
1 2A 2B 3 4 5 6 6 7 8Z 8Y 8X 19 9 10 11 12A 12B 12C 12D 13 14 16 17 18	W —29784B W —4099B W —4099B G6 —27134 G4 —28859 G106—32000 G104—32004 G103—32004 G94 —32002 W —29804A G1 —34002 W —28620 W —23191A W —36541 W —36541 W —36541 W —36541 W —36541 W —36541 W —37075 W —40998 G22 —33001 C —40926 W —40632B W —41013A W —41227 W —40633B W —41113A W —41113A W —4113A	Antenna—Flexible Dial Light Dial Light Dial Light Dial Light Dial Light Socket Assembly Filter Choke Ant. Coil 1st I-F Coil 2nd I-F Coil Osc. Coil (8 Mfd. 125 V. Condenser, (16 Mfd. 125 V. (25 Mfd. 100 V. Condenser, .00025 Mfd. (Molded) Condenser, .003 Mfd. 200 V. Condenser, .01 Mfd. 400 V. Condenser, .02 Mfd. 160 V. Condenser, .02 Mfd. 160 V. Condenser, .02 Mfd. 160 V. Condenser, .05 Mfd. 400 V. Condenser, .05 Mfd. 400 V. Condenser, .1 Mfd. 160 V. Condenser, .1 Section Trimmer Condenser, .1 Section Trimmer 2 Section Var. Tuning Condenser Dial Glass—536 only Pointer Disc—536 only Dial Glass Bracket R-H—536 only Dial Glass Bracket L-H—536 only Drive Chain—536 only Bearing Support—536 only Driver Sprocket Pointer Disc Mtg. Screw Dial Glass—5536 only Pointer Disc—5536 only Pointer Disc—5536 only Pointer Disc—5536 only Support Bracket L-H—5536 only Support Bracket R-H—5536 only Support Bracket R-H—5536 only Support Bracket R-H—5536 only Dial Glass Bracket R-H—5536 only Support Bracket R-H—5536 only Support Bracket R-H—5536 only Dial Glass Bracket—5536 only	19 20 21 22 23A 23B 24 25 26 27 28 29 30A 30B 31 32 33	W —41162 W —41160 W —41159A W —40909 W —31840A B —40999 —36316 —4921C —35928 —35600 —35601 —36322 —35927 —33490 W —28589 W —41000 G151—36400 G162—36400 W —40911 W —27981A B —41012 W —40593 —6415 —41004 —41002 B —40590 D — 28 W —41019 W —40839 W —40840 W —29760A W —41019 W —41019 W —41021	Drive Chain—5536 only Bearing Bracket—5536 only Shaft—5536 only Spring Washer—5536 only Power Cord & Plug Resistor, 2700 Ohm ½W. Resistor, 10,000 Ohm ¼W. Resistor, 100,000 Ohm ¼W. Resistor, 100,000 Ohm ¼W. Resistor, 300,000 Ohm ¼W. Resistor, 300,000 Ohm ¼W. Resistor, 2 Megohm ¼W. Resistor, 2 Megohm ½W. Resistor, 350 Ohm ½W. Resistor, 350 Ohm ½W. Resistor, 2 Megohm ½W. Resistor, 350 Ohm ½W. Resistor, 350 Ohm ½W. Flex. Candohm—2 Sections Socket Type 6K7 Socket Type 6K7 Socket Type 25A6 Socket Type 25A6 Socket Type 25Z6 Tube Shield Tube Shield Base Speaker 237BL9 Speaker Mtg. Bracket Mtg. Bracket Screw Band Selector Switch Volume Control 4800 Ohm Tap 160 Ohm Line Switch Escutcheon Escutcheon Escutcheon Plate		



PARTS LIST-MODEL 6H2

			*	1	1		
ty.	Part No.	Description	Item	Qty.	Part No.	Description	Item
1	G3-32000	Antenna Coil (Low Freq.)	2	1	B30375A	Cable & Plug	67
1	G1-32002	Antenna Coil (High Freq.)	3	1	W 28552	Level Control (Volume) (3	
1	G2-32001	R. F. Trans, Coil (L. F.)	4			Megohms)	58
î	G1-32001	R. F. Trans. Coil (H. F.)	5	2	G4-27134	Dial Light Brkt Assm	
î	G2-32002	Oscillator Coil (L. F.)	6	ī	W25594B	Tone Control (80000 Ohm) &	
î	G1-32002	Osc. Coil (H. F.)	7			Line Switch	59-6
i	G9-32004	1st I. F. Trans. (With	8-18	1	G16-26719	AntGnd. Terminal	1
-	0.0-02004	Trimmers	19		010 100110	TARREST CARROLL CONTROL CONTROL	1
4	G10-32004	2nd I. F. Trans, (With	9-20			FILTER & BY-PASS	
1	G10-3200%		21			CONDENSERS	
	TTTOPOOO	Trimmers	21	1 1	W29097C	888. Mfd. 450 V450 V	37 -3
6	W25200	Coil Shield Socket		, t	W 20001C		
3	W30802	Coil Shield		4	3770010470	250 V	39
2	W25025A	Coil Shield		1 1	W26194B	12. Mfd. 475 V	36
1	W25025 A	Coil Shield		1	W30321	1. Mfd. 160 V	32
3	W26891	Insulating Washer L. F.	0.4.0	3	W32379	0.02 Mfd. 200 V	22-2
		AntR. F. and Osc	2-4-6		WY 19090 4	0.0044.3463	25
3	W21541B	Retaining Ring	2-4-6	1 1	W32304	0.0014 Mfd.	24
2	W30026	Retaining Ring	3-5-7	1	W30322A	0.00017-0.006 Mfd, 200 V	
1	G1-33008	L. F. & H. F. Antenna				200 V	26-2
		Trimmer Cond	11-12	1	W25537A	0.001-0.03 Mfd. 400 V400 V.	28-2
1	G1-33008	L. F. & H. F. R. F. Trim-		1	W30805	0.01 Mfd. 400 V	30
		mer Cond	13-14	1	W32378	0.01 Mfd. 400 V	31
1	G15-33009	L. F. & H. F. Osc. Trimmer		1	W24784	0.25 Mfd. 200 V	33
		Condenser	15-75	1	W25517	0.008-0.05 Mfd. 400 V400 V.	34-3
1	G2-33007	L. F. & H. F. Osc. Series		1	W27540	0.0005 Mfd. 400 V	40
^	02000	Trimmer Cond	16-17				
1	G19-33002	Variable Tuning Condenser				RESISTORS	
*	010 00002	Gang	10	1	W 28589	350 Ohms (Flexible)	41
4	G5-32086	Dial Drive Assm	1 20	l î	21453	40000 Ohms	42
1		Dial Hand		1 4	23785	500000 Ohms	43-4
1 2	W32208A				20100	000000 011113	50-5
	W32293	Dial Hand Nut	61	2	26577	3 Megohms	44-4
1	G75-27456	6D6 Socket	62	li	W27504	100 Ohms (Flexible)	45
1	G47-27456	6A7 Socket		1 1	21454		47
1	G48-27456	6B7 Socket	63	1 1	23403	1 Megohm	
1	G80-27456	76 Socket	64			150000 Ohms	49
1	G25-27456	42 Socket	65	1	21876 24814	10000 Ohms	51
1	G6-27456	80 Socket	66			7000 Ohms	52
3	W26010	Tube Shield Base		1	33474	120000 Ohms	54
2	W27328A	Tube Shield (6A7, 6B7)		1	W31883	8500-25000 Ohms	56-5
1	B26009C	Tube Shield (6D6)		3	W32352	Knob	
1	G6-30745	Power Transformer 60 cy.		1 1	W32353	Knob	
		110 V	71	1	W31007A	Speaker Cord (4 Lead)	
	G7-30745	Power Transformer 25 cy.		1	W32219A	Dial Glass	
		110 V	72	1	W32220A	Dial Glass Retainer	
	G8-30745	Power Transformer 25 cv.		1	B32190C	Escutcheon	
	00 03110	220 V	73	1	W33106A	Escutcheon Gasket	
1	B32285	Band Change Switch	74	4	D28	Escutcheon Screws (.10 doz)	

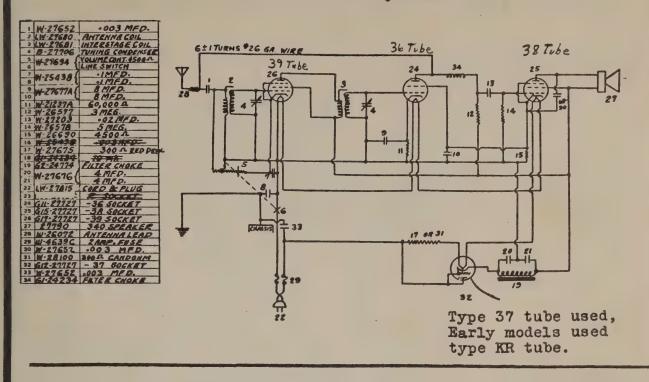




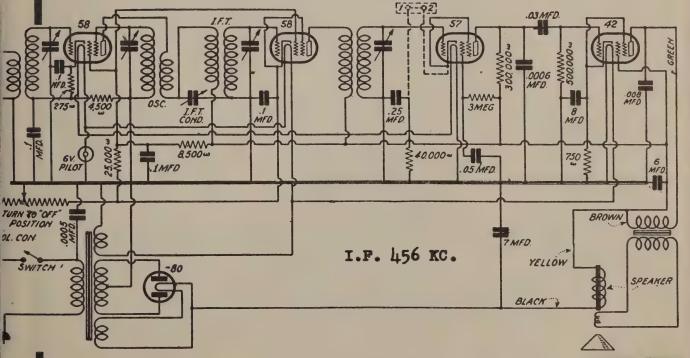
Crosley Radio Corporation

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Crosley Model 147



Crosley Model 148



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37

The Crosley Radio Corporation, Cincinnati, Ohio

Model 158

Specifications

Model 158 is a seven tube superheterodyne designed for operation from A. C. electric circuits. The intermediate frequency used is 181.5 KC.

Tubes And Voltage Lumits

The following are the voltages measured with the receiver in operating condition, but with no signal to the antenna circuit. Use a high resistance D. C. Voltmeter (1000 ohms per volt, or more) for all but filament voltages. In measuring filament or heater voltages use

a low range A. C. meter. The voltage limits are + or - 10% of values given in the following table.

Line voltage—117.5 (235 for 220 volt receivers).

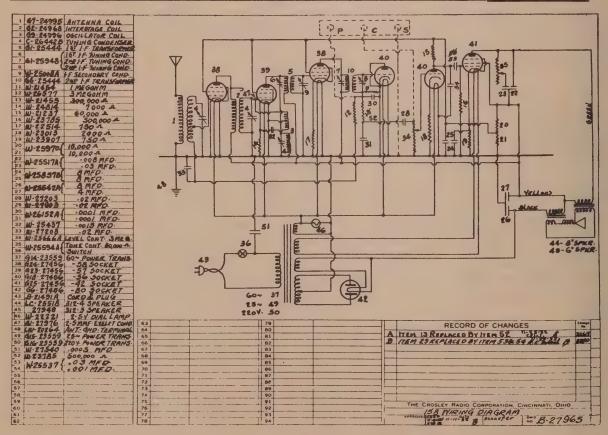
Plate voltage measured from plate contact to cathode contact.

Screen grid voltage measured from screen grid contact to cathode contact.

Suppressor grid voltage measured from suppressor grid contact to cathode contact.

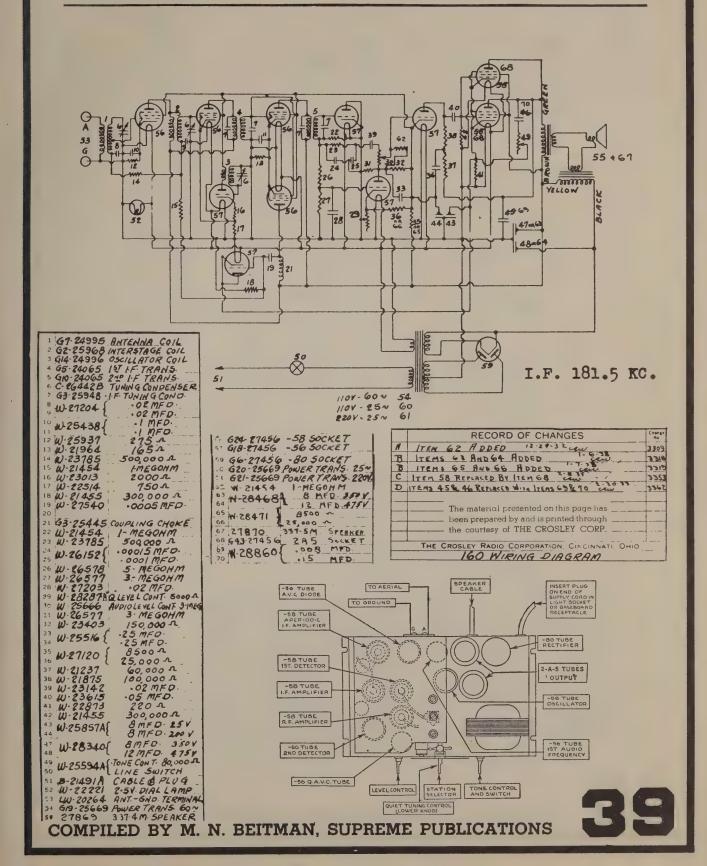
Bias voltage measured from cathode con-

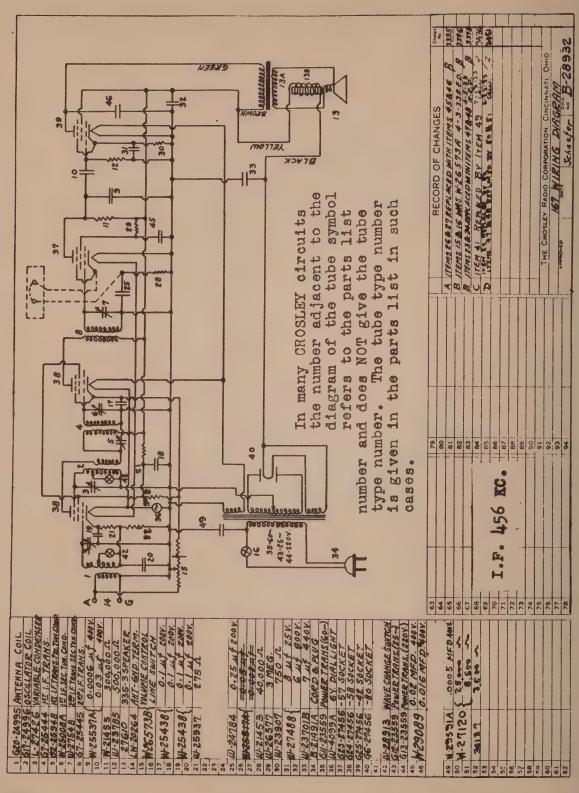
Tube Position	Plate	Screen Grid	Voltages Supp. Grid	Bias	FIL
58 R. F. Amplifier	270	85	0	0	: 2.5
57 Oscillating Detector	270	80	0	6.0	2.5
58 I. F. Amplifier	275	80	0	4.0	2.5
56 Detector	0				2.5
56 A. F. Amplifier	40			1.6	2.5
42 Output	245	250		22.0	6.3
80 Rectifier	350				4.8



Model 160

The Crosley Radio Corporation





The Crosley Radio Corporation, Cincinnati, Ohio

Model 168

Specifications

Model 168 is a seven tube dual band superheterodyne designed for operation from A.C. electric circuits. The intermediate frequency is 181.5 Kc.

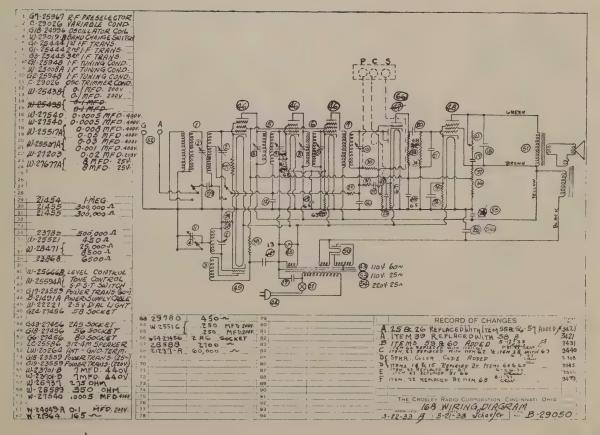
Tubes and Voltage Limits

The following are the tubes and voltages

measured with the receiver in operating condition but with no signal to the antenna circuit. Line voltage should be 117.5 volts (235 volts for 220 volt receivers). All voltages, except filament, are measured from tube contact to chassis with a 500 volt D.C. voltmeter (1000 ohms per volt). Filament voltages are measured with a low range A.C. voltmeter.

Tube	Position	Plate	Screen Grid	Cathode	Suppressor Grid	Filament
56 58 58 58 2A6 2A5 80	Oscillator Modulator I. F. Amplifier I. F. Amplifier Detector and A. F. Amplifier Output Rectifier	270 270 270 270 231 257 380	122 122 122 122 270	6.5 8.0 8.5 7.0 2.0 18.0	8.0 8.5 7.0	2.5 2.5 2.5 2.5 2.5 2.5 2.5 4.9

Voltage limits are plus or minus 10% of values given.



The Crosley Radio Corporation, Cincinnati, Ohio

Model 169

Specifications

Model 169 is a four tube dual band superheterodyne designed for operation from A.C. electric circuits. The intermediate frequency is 456 Kc.

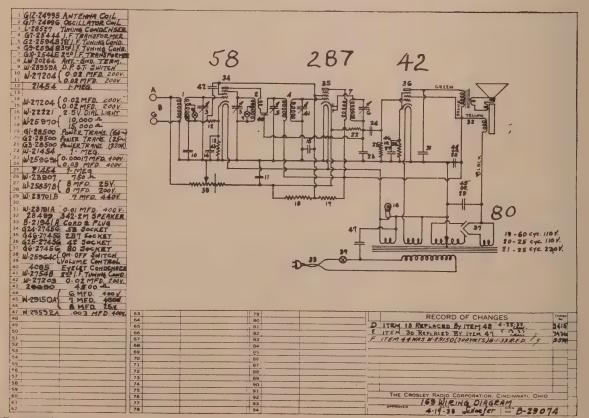
Tubes and Voltage Limits

The following are the tubes and voltages measured with the receiver in operating con-

dition but with no signal to the antenna circuit, with a line voltage of 117.5 volts (235 volts for 220 volt receivers). All voltages, except filament, are measured with a 500 volt D.C. voltmeter (1000 ohms per volt) from tube contact to chassis. Filament voltages are measured with a low range A.C. voltmeter.

Tube	Position	Plate	Screen Grid	Cathode	Suppressor Grid	Filament
58 2B7 · 42 80	Oscillator-Modulator I. F. Amplifier and Detector Output Rectifier	188 188 178 322	88 88 188	28 2 14.5	0	2.5 2.5 2.5 4.9

Voltage limits are plus or minus 10% of values given.



The Crosley Radio Corporation, Cincinnati, Ohio

Model 170

Specifications

Model 170 is a ten tube dual band superheterodyne designed for operation from A.C. electric circuits. The intermediate frequency used is 181.5 Kc.

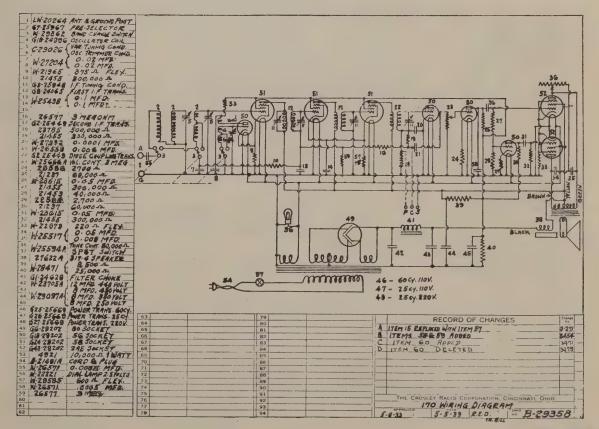
Tubes and Voltage Limits

The following are the tubes and voltages measured with the receiver in operating con-

dition but with no signal to the antenna circuit, and with a line voltage of 117.5 volts (235 volts for 220 volt receivers). All voltages, except filament, are measured with a 500 volt D.C. voltmeter (1000 ohms per volt) from tube contact to chassis. Filament voltages are measured with a low range A.C. voltmeter.

Tube	Position	Plate	Screen Grid	Cathode	Suppressor Grid	Filament
58	Modulator	276	120	6.0	6.0	2.5
56	Oscillator	50		6.0		2.5
58	I. F. Amplifier	276	120	8.0	8.0	2.5
58	I. F. Amplifier	276	120	8.0	8.0	2.5
56	Detector	0			0.0	2.0
56	Phase Shifter	55		0		2.5
56	A. F. Amplifier	56		2.0		2.5
2-2 A5	Output	269		3.0		2.5
80	Rectifier	355	276	18.0		2.5 4.9

Voltage limits are plus or minus 10% of values given.



The Crosley Radio Corporation, Cincinnati, Ohio

Model 171

Specifications

Model 171 is a twelve tube dual band superheterodyne designed for operation from A.C. electric circuits. The intermediate frequency is 181.5 Kc.

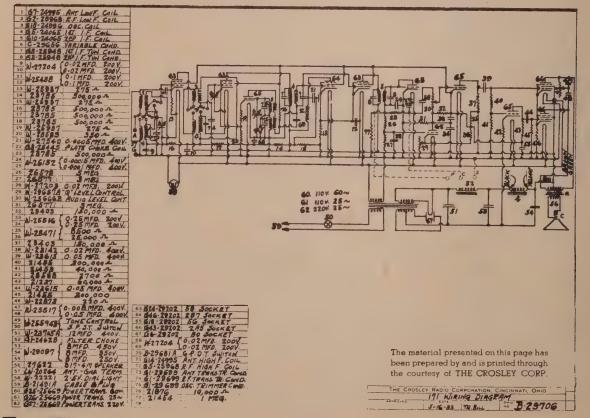
Voltages and Tube Limits

The following are the tubes and voltages measured with the receiver in operating condition but with no signal to the antenna circuit, and with a line voltage of 117.5 volts (235 volts for 220 volt receivers). All voltages, except filament are measured with a 500 volt D.C. voltmeter (1000 ohms per volt) from tube contact to chassis. Filament voltages are measured with a low range A.C. voltmeter.

Tube	Position	Plate	Screen Grid	Cathode	Suppressor Grid	Filament
58	R. F. Amplifier	267	115	3.0	3.0	2.5
56	Oscillator	60		7.0		2.5
58	Modulator	267	115	5.5	5.5	2.5
58	I. F. Amplifier	267	115	4.5	4.5	2.5
2B7	A. V. C. Tube	267	115	4.5	4.5	2.5
56	QAVC Tube	70		0-20.0*		2.5
-56	Detector	0		0		2.5
56	Phase Shifter	58		2.5		2.5
56	A. F. Amplifier	170		115		2.5
2-2A5	Output	260	267	17.5		2.5
80	Rectifier	355				4.9

Voltage limits are plus or minus 10% of values given.

*Voltage depends on position of "Q" control.



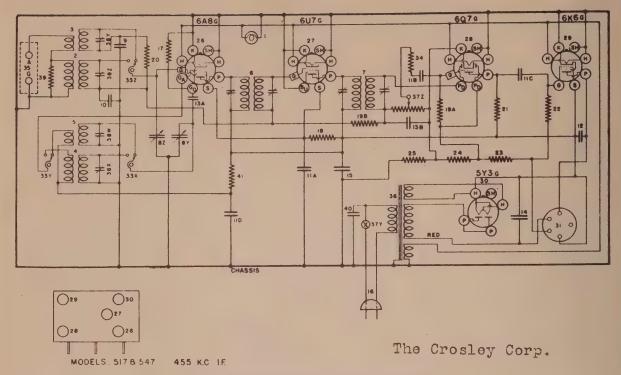
MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS TOGETHER WHEN PHOND ADAPTER IS NOT IN USE 000000 the numberlist where the figure adjacent to the schematic of the tube symbol 十千 this and many other CROSLEY circuits, to this part number in the parts WIRING DIAGRAM OF MODELS 515 AND 5515 9 tube type number is stated IMPORTANT NOTICE 100000 30 31 ₹ 25 B refers actual 258 725A 450 KG I.F. 24 (722 been prepared by and is printed through The material presented on this page has the courtesy of THE CROSLEY CORP. ~|000000000 PARTS LIST-MODELS 515 AND 5515 29 90 94 Ne. 1 2 3 4 5 6Z 6Y 7Z 7Y 8Z 8Y 10Z 10Y 11Z 11Y 12Z 12Y 20 21 Z 21 Y 22 23 24 25 A 25 B G6 G80 G90 G75 G75 W W W G1 G5 G6 G7 Crosley Radio -28622 -30005 -35011 26 277 277 28 29 30

I.F. 450 KC.

36184A 26719 28500 28500 -28500 -37343 -35917 -37158 -37156 -37157

31Z 31Y

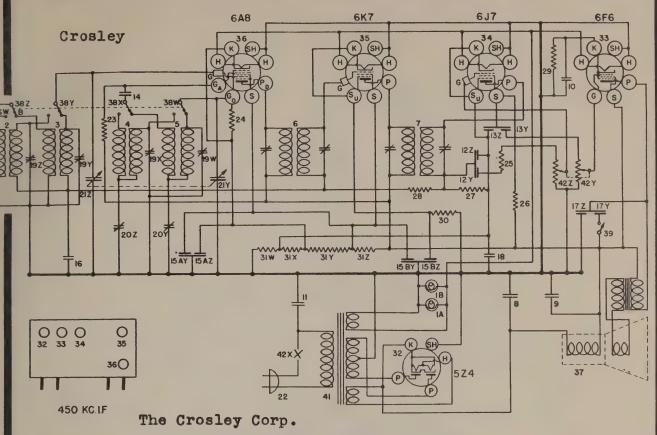
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WIRING DIAGRAM-MODEL 517 AND 547

PARTS LIST — MODEL 517 AND 547

		Figures in first column re	fer to part	s in Diagrams.	
Item No.	Part No.	Description	Item No.	Part No.	Description
9 10 11ABCD 112 13AB 14 15 16 17 18 19AB 20 21 22 23 24 25 27 28 29	W -43567 W -43568 G132-32000 G133-32000 G133-32002 G136-32004 G33-32004 G33-32004 G33-32004 G33-32004 G33-32004 G33-32004 G33-33001 B -43551 B -43729 W -43693 W -43693 W -43778 B -43561 W -43560 W -43540 W -43561 W -36610 W -36610 W -36610 W -36610 W -36688 -21237A -24814 -36688 -214555 W -28589 W -33012A W -24537 G156-36400 G171-36400 G172-36400 G172-36400	Bulb—Dial Light Light Bracket Ant. Coil, B. C. Ant. Coil, B. C. Ant. Coil, B. C. Osc. Coil,	33 31 32 33 34 35 36 377 38Z 38Y 38W 38W 38W 40 41	C173—36400 W —40911 G103—28807 257BP11"B" -42927 -41473 -43539 257BP18 "B" -42927 -43986 -43539 462CP11 "M" -43988 464BP15 "M" -43994 -43994 -43994 W—43448 -36761 G1—26719 -43479 -43480 -43481 -43449 W—41247A W—41247A —22196 W—30606 -30137 G1—43724 W—43769 W—43553 W—43552 W—43552	Socket Type 5Y3 Tube Shield Socket—Speaker Speaker, Spec. No. 51-A-5 (Cab. 6K & 7KA) Cone for 257BP11 "B" Speaker O. P. Trans. for 257BP11 "B" Spk. Speaker, Spec. No. 51-A-8 (Cab. 7H & 7HA) Cone for 257BP18 "B" Spk. Speaker, Spec. No. 51-A-8 (Cab. 7H & 7HA) Cone for 257BP18 "B" Spk. Spex. No. 1-D-971 (Cab.6FF) Cone for 462CP11 "M" Spkr. Spkr., Spec. No. 1-D-971 (Cab.6FF) Cone for 462CP11 "M" Spkr. Spkr., Spec. No. 1-D-1017(Cab. 7M) Cone for 464BP15 "M" Spkr. Spkr., Spec. No. 1-D-1017(Cab. 7M) Cone for 464BP15 "M" Spkr. Spkr., Spec. No. 1-D-1017(Cab. 7M) Cone for 464BP15 "M" Spkr. Spkr., Spec. No. 1-D-1017(Cab. 7M) Cone for 464BP15 "M" Spkr. Spkr., Spec. No. 1-D-1017(Cab. 7M) Cone for 464BP15 "M" Spkr. Spkr., Spec. No. 1-D-1017(Cab. 7M) Cone for 464BP15 "M" Spkr. Spkr., Spec. No. 1-D-1017(Cab. 7M) Cone for 464BP15 "M" Spkr. Spkr., Spec. No. 1-D-1017(Cab. 7M) Cone for 464BP15 "M" Spkr. Spkr., Spec. No. 1-D-1017(Cab. 7M) Cone for 464BP15 "M" Spkr. Spkr., Spec. No. 1-D-1017(Cab. 7M) Cone for 464BP15 "M" Spkr. Spkr., Spec. No. 1-D-1017(Cab. 7M) Cone for 464BP15 "M" Spkr. Spkr., Spec. No. 1-D-1017(Cab. 7M) Cone for 464BP15 "M" Spkr. Spkr., Spec. No. 1-D-1017(Cab. 7M) Cone for 464BP15 "M" Spkr. Spkr., Spec. No. 1-D-1017(Cab. 7M) Cone for 464BP15 "M" Spkr. Spkr., Spec. No. 1-D-1017(Cab. 7M) Cone for 464BP15 "M" Spkr. Spkr., Spec. No. 1-D-1017(Cab. 7M) Cone for 462CP11 "M" Spkr. Spkr., Spec. No. 1-D-97 Spkr., Spec. No. 1-D-97 Spkr., Spec. No. 1-D-97 Speaker Pula Celluloid Disc (547 only)

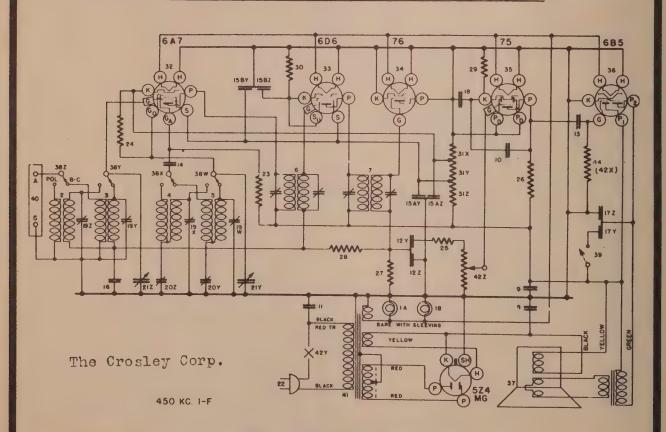


WIRING DIAGRAMS—MODELS 555 AND 5555

Item Part No. Description No. Part No. Description 1A G6 -27134 Dial Light Assm. -37354 Dial Face only 1B G6 -27134 Dial Light Assm. 22 B -33906A A. C. Cord & Plug 2 G82 -32000 Ant. Coil, S. W. B. 23 -5370A Resistor, 20,000 Ohm	
1A G6 —27134 Dial Light Assm. 1B G6 —27134 Dial Light Assm. 22 B —33396A A. C. Cord & Plug	
1B G6 —27134 Dial Light Assm.* 22 B —33996A A. C. Cord & Plug	
The late and the second of	
2 G82 -32000 Ant. Coil, S. W. B. 23 -5370A Resistor, 20,000 Ohm	
3 G81 32000 Ant. Coil. B. C. B. 24 —21237 Resistor, 60,000 Ohm	
4 G65 -32002 Osc. Coil. S. W. B. 25 -21875 Resistor, 100,000 Ohm	
5 G66 - 32002 Osc. Coil B. C. B. 26 -21455 Resistor, 300,000 Ohm	
6 G71 -32004 1st I. F. Assm. 27 -33344 Resistor, 400,000 Ohm	
7 G72 -32004 2nd I. F. Assm. 28 -37245 Resistor, 1.5 Megohm	(77)
8 W —36055 Condenser, 35. Mfd. 400 Volt 29 W —25291 Resistor, 500 Ohm 1½ W.	
9 W —36057 Condenser, 40. Mfd. 300 V. 30 W —28106 Resistor, 500 Ohm ½ W. C	
10 W —36931 Condenser, 12 Mfd. 25 V. 31Z Resistor, 10,000 Ohm Cand	
11 W)(240/15)	
122 [W 20200 A] Condenser, 0.00011 Mild. 200 1.	
12Y (W — 30324A) Condenser, 0.006 Mfd. 200 V. 31W (Resistor, 185. Ohm Candor 13Z (Condenser, 0.001 Mfd. 400 V. 32 G154—36400 Socket, 5Z4	***
13Y { W -25537A} Condenser, 0.03 Mfd. 400 V. 33 G153 -36400 Socket, 6F6	
14 W —23191A Condenser, 0.01 Mfd. 400 V. 34 G157—36400 Socket, 6J7	
15AZ/ 35 G151—36400 Socket, 6K7	
15AY W —28623 Condenser, 0.02 Mfd. 200 V. 36 G156—36400 Socket, 6A8	
15BZ / W condenser, 0.02 Mfd. 200 V. 37 331—CL—9 Speaker, (555)	
19BY Condenser, 0.02 Mid. 200 V. Speaker, (3000) Console	
16 W27216 Condenser, 0.05 Mtd. 200 V. G335696 Speaker Cable (5555)	
17Z { W —35011 } Condenser, 0.006 Mfd. 400 V. 38W } Condenser, 0.03 Mfd. 400 V. To } Band Change Switch	
174 \ Condenser, 0.03 Mid. 400 V.	
10 W -30341 Contactisci, 0.00 1010.	
10V / 40 G1 —26719 Apt & Grd Terminal	
191 W -37241A 4 Section Trimmer Cond. 41 G12 -28500 Power Trans. 60 Cy. 110	V.
19w) G13 —28500 Power Trans. 25 Cy. 110	
20Z 1 S. W. Osc. Series Padder G14 —28500 Power Trans. 25 Cy. 220	V.
20Y (C29 -33006) B. C. Osc. Series Padder 42Z) (Volume Control A. F. Grid	
21Z G17 -33001 Var. Tuning Cond. Gang 42Y -37395 Volume Control Output G	rid
211 / Con-on Switch	
—37353C Dial Assm. Complete	
—37158 Dial Glass	
—37156 Dial Pointer —37157 Pointer Screw	

PARTS LIST-MODELS 666 and 5686

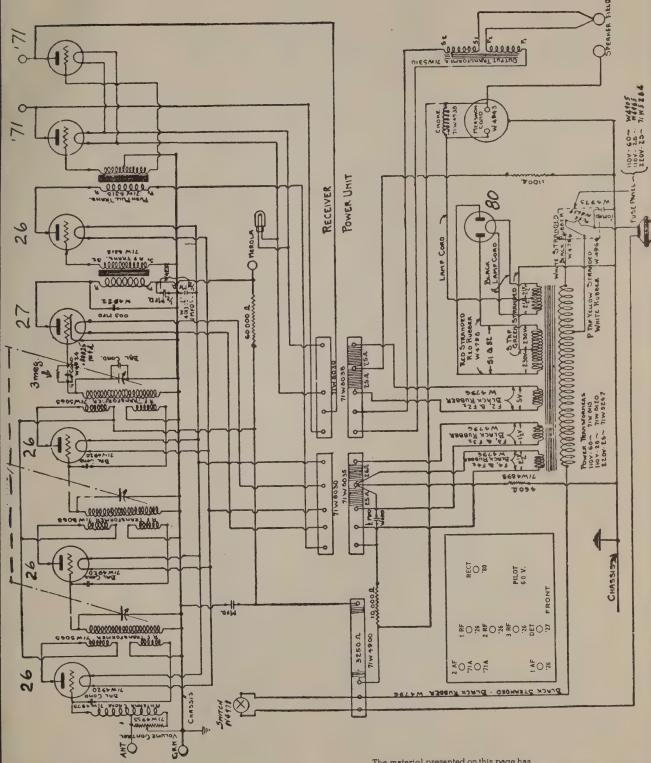
			Item		
No.	Part No.	Name	No.	Part No.	Name
2 3 3 4 4 5 5 6 6 7 7 8 9 10 11 122Y 13 14 15 A2Y 15 B2Y 16 17 Z 17 Y 8 19 20 21	W -37982 G3 -37985 G82 -32000 G81 -32000 G81 -32002 G 66 -32002 G 66 -32002 G 7 -32004 W -36065 W -30270 W -30806 W -30322-A W -23615 W -23191-A W -28623 W -28623 W -28623 W -27216 W -31052 W -37732 W -37732 W -37732 W -41897 W -41897 W -41738 W -41738 W -41739 B -42617 MG-14-41980 W -40798 W -40798 W -40798 W -40797 M -40797 M -40795 W -40797 M -40795	(Cond. 02 Mf. 400V. (Cond. 02 Mf. 400V. (Cond. 02 Mf. 400V. (Cond. 02 Mf. 400V. (Cond. 03 Mf. 400V. (Cond. 05 Mf. 400V. (Cond.	25 25 26 27 28 29 30 31 Y 31 Y 31 Y 32 32 34 35 36 17 17 17 17 17 17 17 17 17 17 17 17 17	-21875 -35929-C -35929-C -35916 W -37246 { G47 -28807 G75 -28807 G80 -28807 G80 -28807 G91 -28807 G90 -37395 G32-C1-3 -42890 -42890 -42890 -42890 -42890 -42890 -37395 K NONE -35601 B -40590 W -42345 D -28 W -37339 W -37339 W -37339 W -37339 MA	Resistor, 100,000 Ohm. 34 W Resistor, 150,000 Ohm. 34 W Resistor, 150,000 Ohm. 34 W Resistor, 150 Wegohn 34 W Resistor, 150 Wegohn 34 W Resistor, 150 Wegohn 34 W Resistor, 150 Ohm. 35 W Resistor, 150 Ohm. 35 W Resistor, 1000 Ohm. 35 W Resistor, 1000 Ohm. 35 W Resistor, 1000 Ohm. 36 W Resistor, 1



WIRING DIAGRAM-MODELS 666 AND 5666

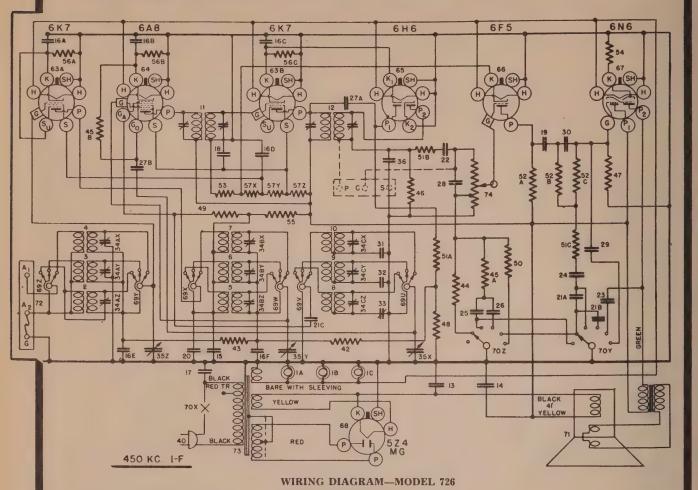
48

Crosley Model 706



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49

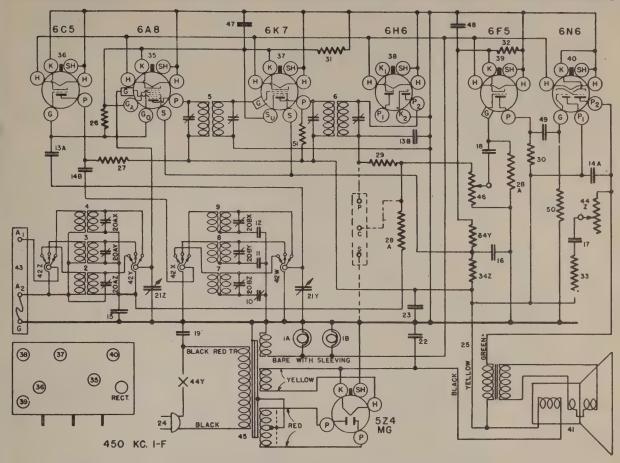


The Crosley Corp.

PARTS LIST-MODEL 726

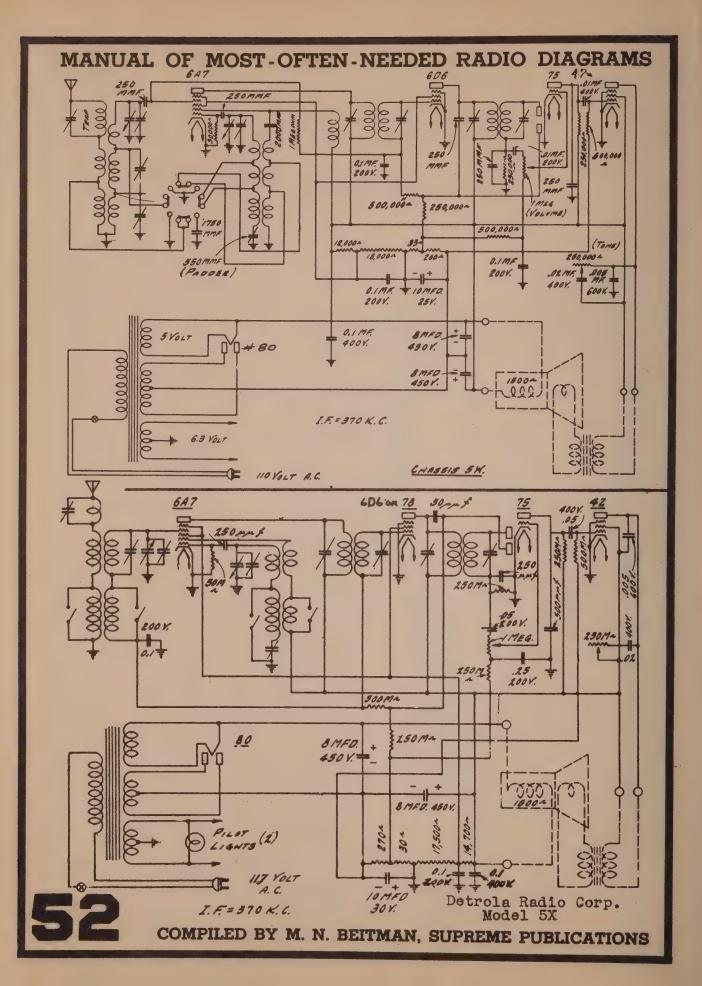
MYN .	Part No.	Description	Item No.	Part No.	Description
ABC	W 37922	Dial Light	44	36319	Resistor, 75,000 Ohm 1/4 W.
į	G3 -37965	Socket Assv. Dial Light	45A	- 35428	Resistor, 60,000 Ohm, 1/4 W.
	G110 - 32000	Corl Ant 540-1800 Kc.	45B	-55928	Resistor, 60,000 Ohm, 1/2 W
	G111 32000	Coil Ant. 1800-6000 Kc.	46	36321	Resistor, 400,000 Ohm. 1/4 W.
	G112 32000	Coil Ant. 6 - 18 Mc.	47	38623	Resistor 750,000 Ohm. ¼ W.
	G76 -32001	Coil R F. 540-1800 Kc.	48	- 36322	Resistor, 500,000 Ohm. ¼ W.
	G89 -32001 G90 - 32001	Coil R F 1800-6000 Kc. Coil R F 6,-18 Mc.	49 50	-37377	Resistor, 20,000 Ohm. 1 W.
	G115-32002	Coil Osc. 590 - 1800 Kc.	51A	35929 35601	Resistor, 150,000 Ohm, 1/4 W
	G121 - 33002	CoilOsc. 1800 F000 Kc.	51B	-35601	Resistor, 300,000 Ohm. 1/4 W. Resistor, 300,000 Ohm. 1/4 W.
	G122 -32002	Coil Onc. 618 Mc.	51C	35601	Resistor, 300,000 Ohm. ½ W
	G121 - 32001	Ist. IF Assy.	52A	- 35930	Resistor, 200,000 Ohm. 1, W.
	G120-32004	2nd, IF, Assy.	52B	~ 35930	Resistor, 200,000 Ohm, 14 W.
	W -36055	Condenser, 35Mf 400V.	52C	-35930	Resistor 200,000 Ohm. 14 W.
	W36057	Condenser, 40M1 300V	53	W 30127	Resistor, 450 Ohm. 12 W. Flex.
	W410R1	Condenser 16M1, 2501'.	54	W -23012A	Resistor, 40 Ohm 3, W. Flex.
A 1	W ~ 36541	Condenser, 02Mf 160V.	55	- 6705	Resistor, 3500 Ohm, 1 W.
) }	W36541	Condenser, 02M1 160V.	56A	W -28589	Resistor, 350 Ohm, 1/4 W. Flex.
F]			56H	W - 28589	Resistor, 350 Ohm. 1/2 W. Flex.
	W -30805	Condenser, 01Mf. 400V.	56C	W - 28589	Resistor, 350 Ohm, 16 W. Flex.
	W - 35936 W 32780B	Condenser, 05M1 200V	577	1	Resistor, 16,500 Ohm
	W 32780B W 32378	Condenser, 05M1 4001	157Y	W 37781	Resistor, 4 000 Ohm. Cand. O
Α.	W 35139	Condenser, .01Mf 400V	57X	11	Resistor 18,500 Ohm.
B	W 35139		63A 63B	G151 36400	Socket Type 6K7
č	W .35139		11 64	G151 36400 G156 -36400	Socket Type 6K7
•	W 28621	Condenser, 02Mf, 200V.	65	G155 - 36400	Socket Type 6A8
	W 23615	Condenser, 05Mf 300V	1166	G158 - 36400	Socket Type 6H6 Socket Type 6F5
	W - 30323	Condenser, 01Mf 200V	67	G165 -36400	Socket Type 6N6
	W -28619	Condenser, ODFM1, 200V.	68	G154 36400	Socket Type 5Z4
	W ~25435	Condenser, 003N4f 400V	69	C -40910A	Band Selector Switch
A	G2 34002	Condenser, .0001Mf (Mica)	70Z	1	Firelity Switch
В	G2 34002	Condenser, 0001Mf (M)(2)	70Y	→ B 42387C	Fidelity Switch
	G8 34002	Condenser, 00001Mf. (Mica)	70X	1	Line Switch
	G3 -34002	Condenser, 0005M1 (Mica)	71	-645CJ3	Speaker "M" Spec. 1D640
	G6 31002 G20 34000	Condenser, 000025Mf (Mica)	1	42883	Cone Assu
	G7 -34000	Condenser, 4910Mmf (Mica) Condenser, 1450Mmf, (Mica)	1	40406	FIERO CON
	-40769	Condenser, B. C. Osc Series Trim.	1,72	42885	Cuth (113ms,
	W 35951	Condenser, 3 Section Trimmer	73	G27 —26719 —42260	Ant. & Gnd. Terminal Assay.
	G52 33002	Condenser, 3 Gang Var. Tuning	13	- 42261	Power Trans. 60 Cy. 110 V.
	MG33 -42255	Dai Drive Assy	74	-42501	Power Trans. 25 Cy. 110 V. Volume Control 3 Mer.
	C 42491	Dial Glass (Calibrated)	11	12001	Misc. Parts
	- 42300	Drive Unit	II.	C42045	Escutcheon
	42597	Dial Mask (Cardboard)	li .	B -42043	Escutcheon Rubber
	W 42180	Dial Hand, Pointer		D - 30	Screws - Escutcheon Mtg.
	41144	Dial Hand, Time Log	1	C42044	Lens-Escutcheon
	W 40486 G1 34002	Pointer Mtg. Screw	1		Emblem
		Condenser, 00025 Mf. (Mica)	r.	W 32620	Nut-Emblem Mtg.
	W 30270 B 33906A	Condenser, 001 Mf 400V,	d	W 36117	Rubber Mtg. Foot
	G3 35696	Power Cord & Plug Cable, Speaker		W 37339	Knob (2 Reg.)
	37245	Resistor, Meg Ohm, 12 W.	1	W - 40192B	Knob, B. S. Sw. (1 Req.)
	33600			W 42490	Knob, S. S. (1 Reg.)

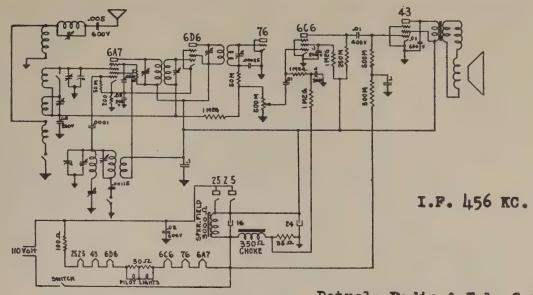
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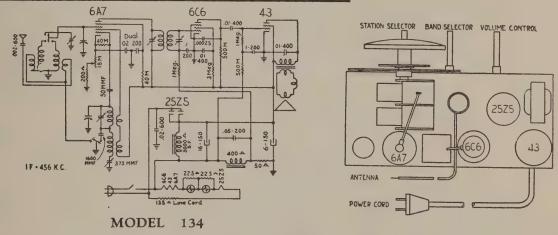
WIRING DIAGRAM—MODEL 716

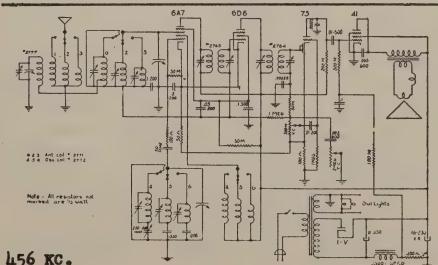
Item No.	Part No.	Name	Item No.	Part No.	Name
-AB 2 3 4 5 6 7 8 9 10 11 12 13A 13B 14A 14B	W -37922 G3 -37965 G120 -32000 G119 -32000 G121 -32000 G122 -32004 G123 -32004 G112 -32002 G111 -32002 G113 -32002 G113 -32002 G123 -34002 G7 -34007 G 8 -34007 G 2 -34002 W -35139 W -35139 W -35936	Bulb 6-8V., Dial Light Socket Assv., Dial Light Coil, Ant. (540-1800 Kc.) Coil Ant. (1800-6000 Kc.) Coil Assv., 1st I.F (450Kc.) Coil Assv., 2nd I-F (450Kc.) Coil Assv., 2nd I-F (450Kc.) Coil Csc. (540-18000 Kc.) Coil Csc. (1800-6000 Kc.) Coil Cs. (5800-18000 Kc.) Coil Cs. (5800-18000 Kc.) Cond. 400-500 Mm. Cond. 1750 Mmf. Cond. 4350 Mmf. Cond., 0001Mf. (Molded) Cond., 0001 Mf. (Molded) Cond., 004 Mf. 400V. (Tub.) Cond., 004Mf. 400V. (Tub.)	28A 28B 29 30 31 32 33 34Z 35 36 367 38 39 40 41	-36688 -36688 -21455 -35930 W -21964 W -35457 W -27503 W -32301 { G156 -36400 G151 -36400 G155 -36400 G155 -36400 G158 -36400 G153 -36400 G165 -36400 G165 -36400 G165 -36400 G165 -36400 G165 -36400 G165 -36400 G165 -36400	Resistor, 3 Megohm ¼W. (Car.) Resistor, 3 Megohm ¼W. (Car.) Resistor, 300,000 Ohm ¼W. (Car.) Resistor, 200,000 Ohm ¼W. (Car.) Pesistor, 165 O im ¾W. (Flex.) Resistor, 210 Ohm ¾W. (Flex.) Resistor, 1400 Ohm ¾W. (Flex.) Resistor, 165,000Ohm Candohm Socket Type 6AB Socket Type 6AB Socket Type 6K7 Socket Type 6H6 Socket Type 6H6 Socket Type 6N6 Socket Type 6T5 Socket Type 5T5 Socket
16 17 18 19 20 21 21	W - 24049-B W - 37873 W - 30488 W - 30805 W - 35951 G21 - 33001 B - 42142-A - 42346 B - 42338 - 41145 W - 40486 MG27-42151 - 41582 W - 36055 W - 36057 B - 33906-A G4 - 35696	Cond., .1Mf.200V.(Tub.)* Cond., .1Mf. 400V.(Tub.) Cond., .02Mf.400 V.Tub.) Cond., .02Mf.400 V.Tub.) Cond3 Section Trimmer Cond2 Section Trimmer Cond2 Section Tuning Dial-Calibrated Glass Drive Unit Mask-Metal Pointer-Dial Screw, Pointer Mtg. Dial Drive Complete Cable, Drive Cond., 35Mf.400V.(Elect.) Cond., 40Mf.300V.(Elect.) Cord and Plug, Power Speaker Cable	42 43 44Z 44Y 45 46 47 48 49 50	-41639 -40770-A G27 -26719 -37908 { -41978 -42149 -42150 -37967 W -29910-A W -28621 W -35758 -23785 W -42345 D -28	Output Trans. for "M" 332BJ3 Switch, Band Selector Terminal Boar J, Antenna & Grd. Tone Control, 100,000 Ohm Switch, Line Transformer, 110V. 60 Cy. Transformer, 110V. 25 Cy. Transformer, 220V. 25 Cy. Volume Control 1 Megohm
26 27	W —37987	Resistor, 50,000 Ohm ¼W. (Car.) Resistor, 15,000 Ohm 1W (WireWound)	TI	HE CROSL	EY CORP.





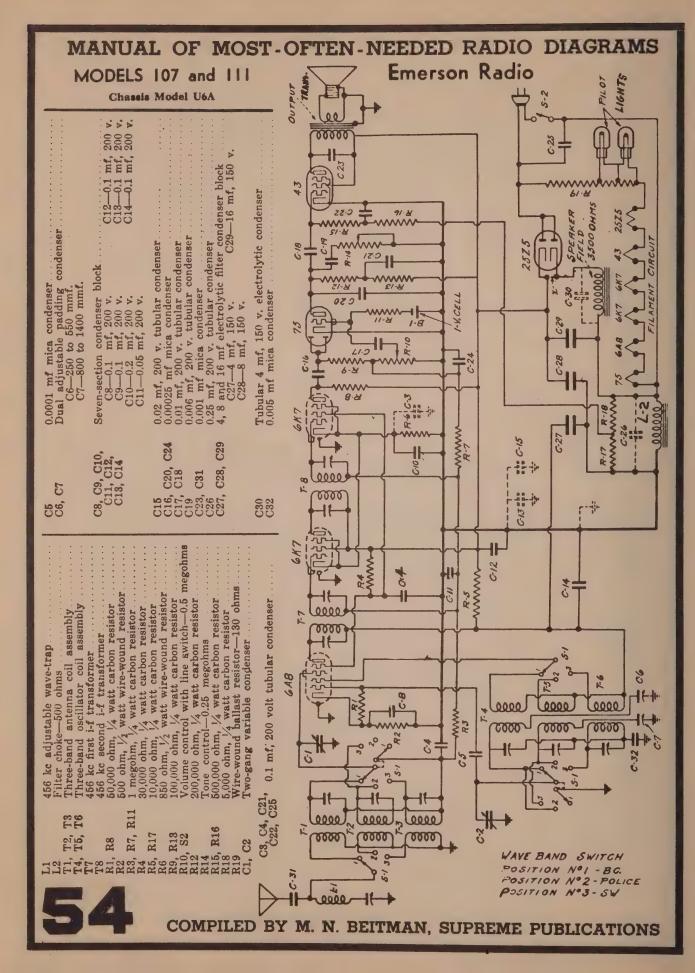
Detrola Radio & Tel. Corp. 100A MODEL

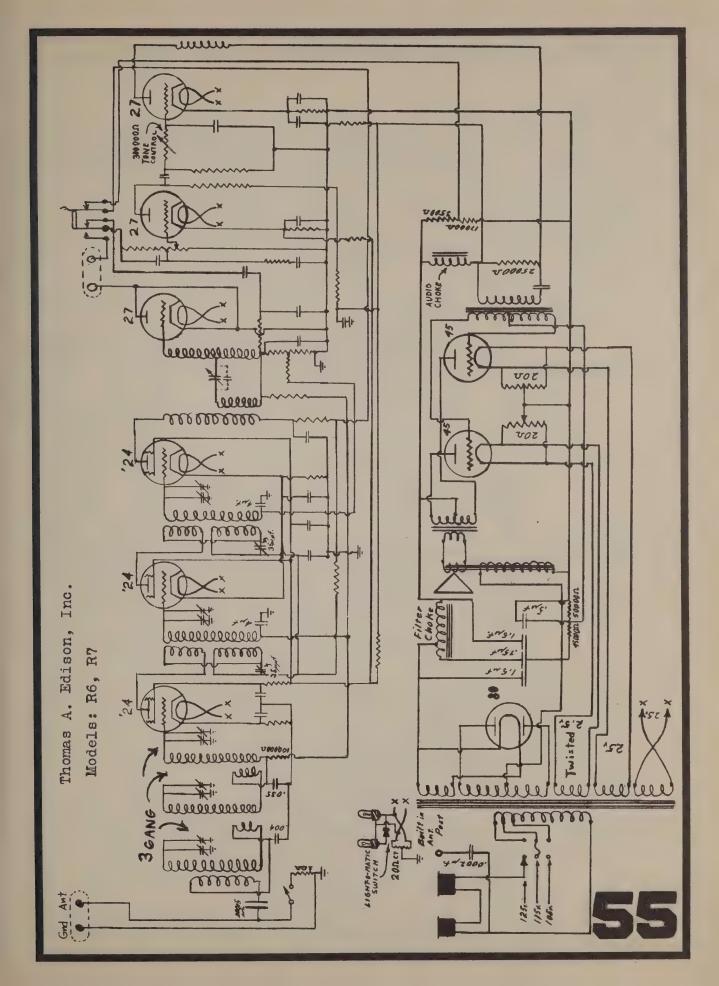


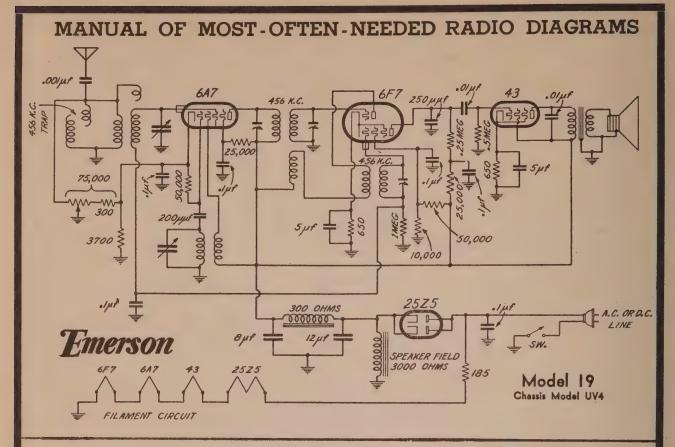


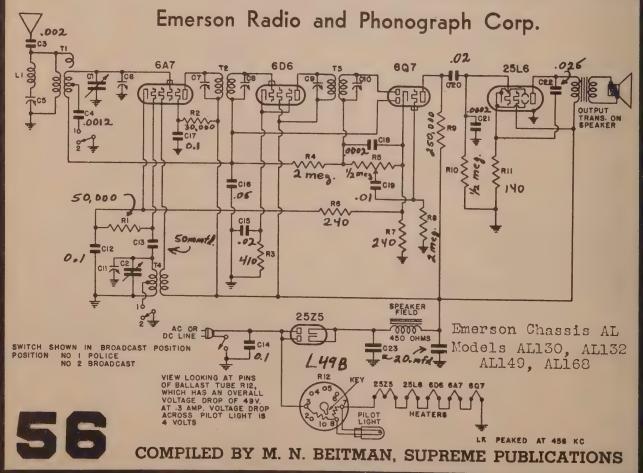
I.F. 456 KC.

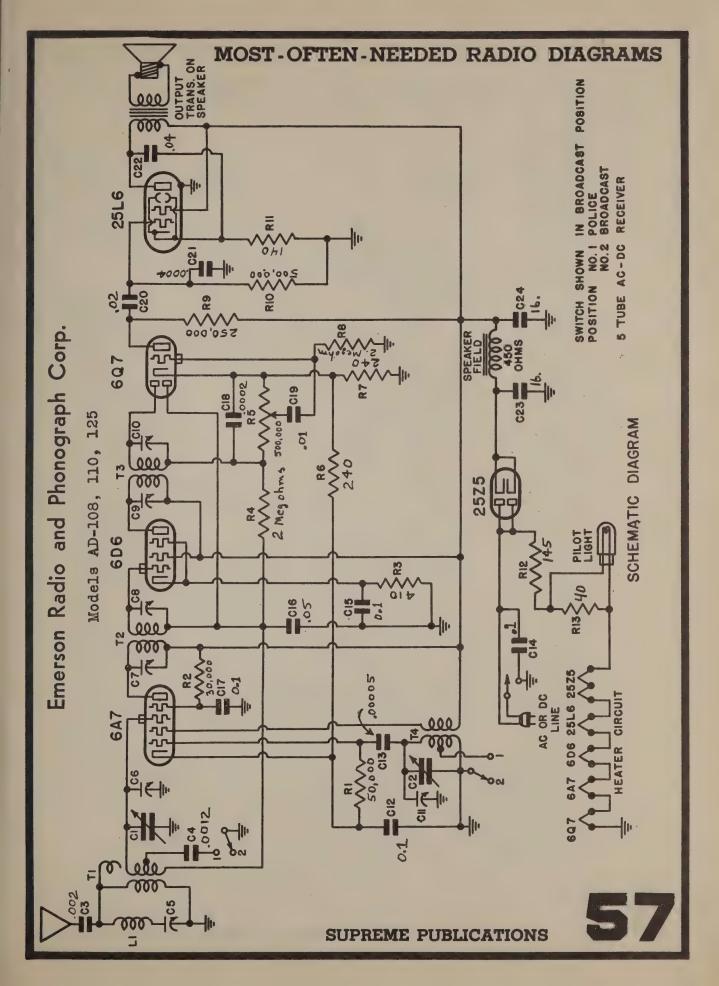
MODEL 106



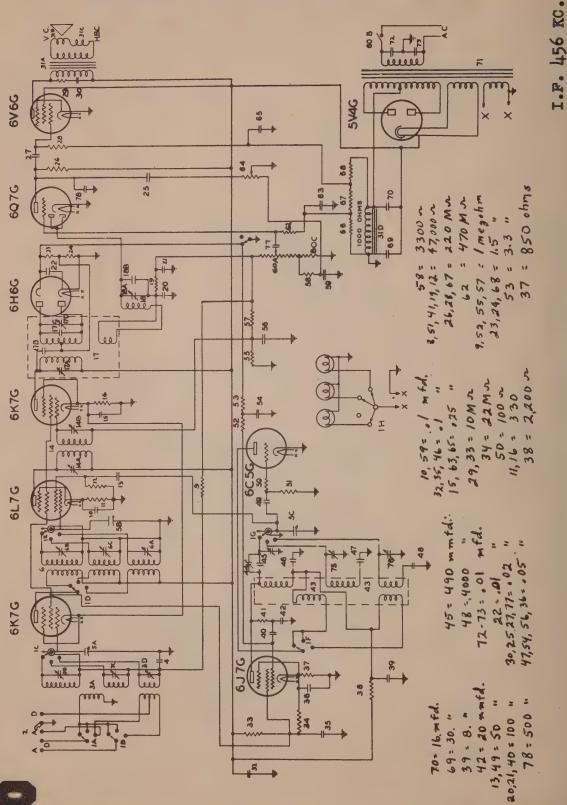




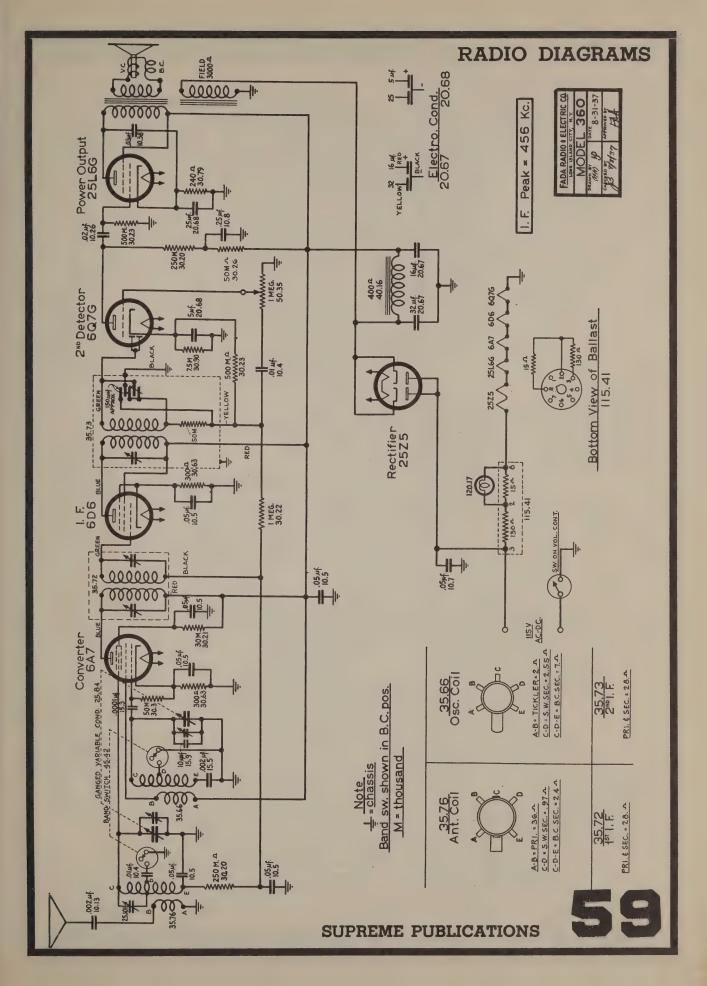




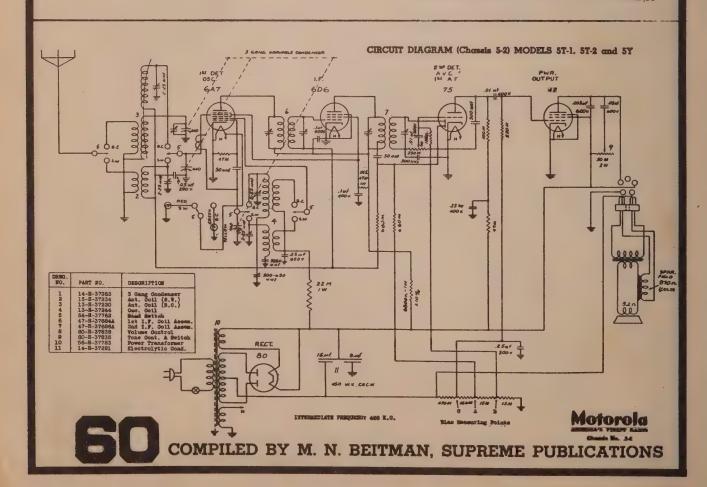
Fairbanks-Morse Radio, Chassis Model 9A

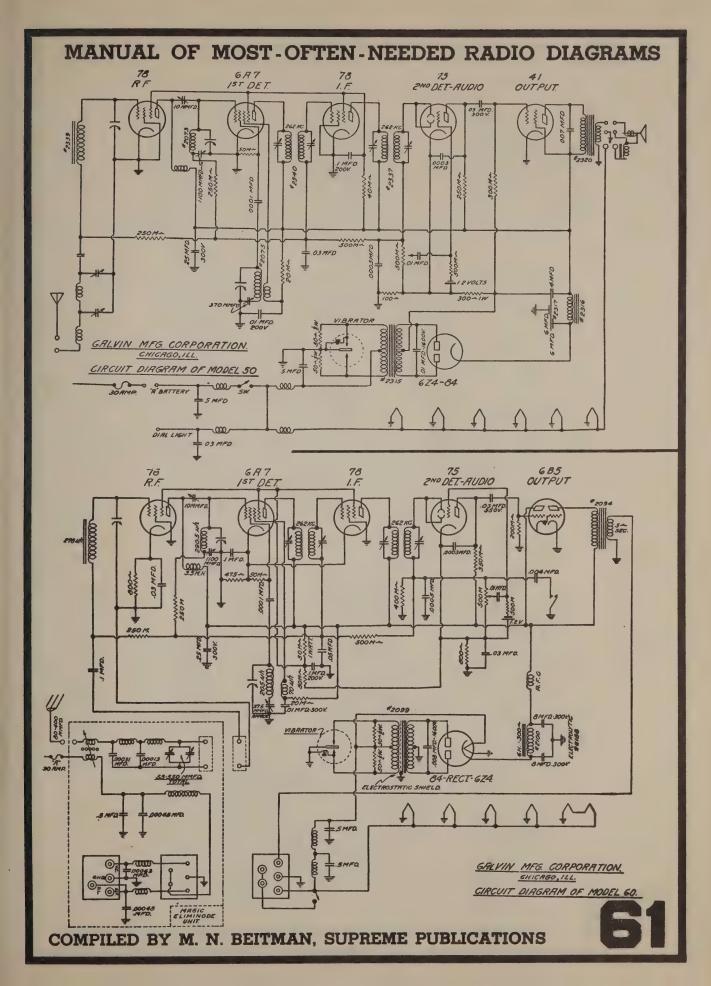


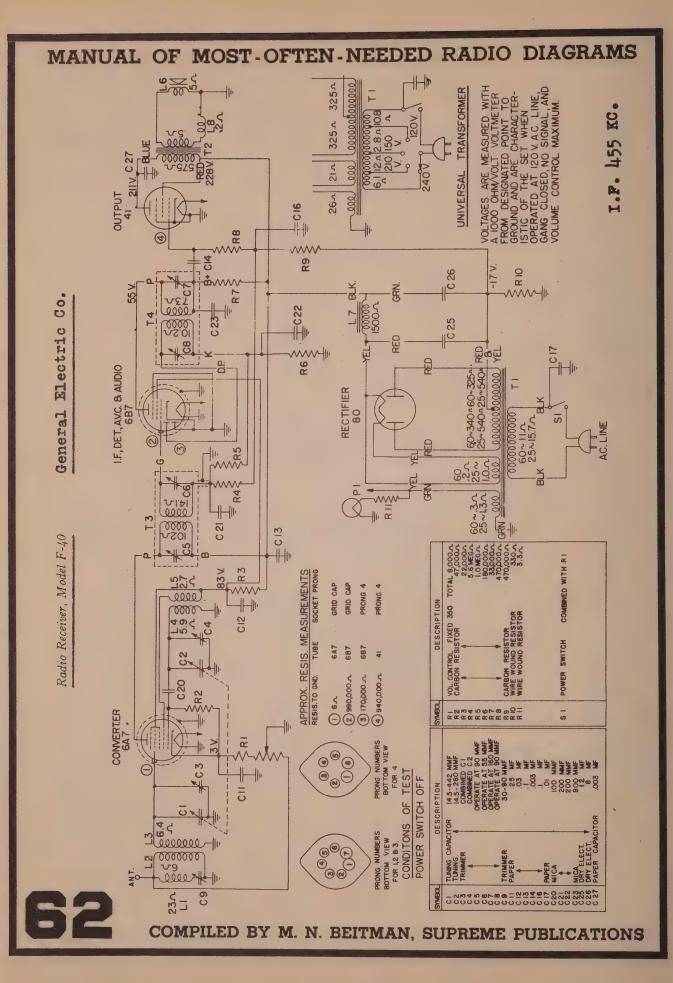
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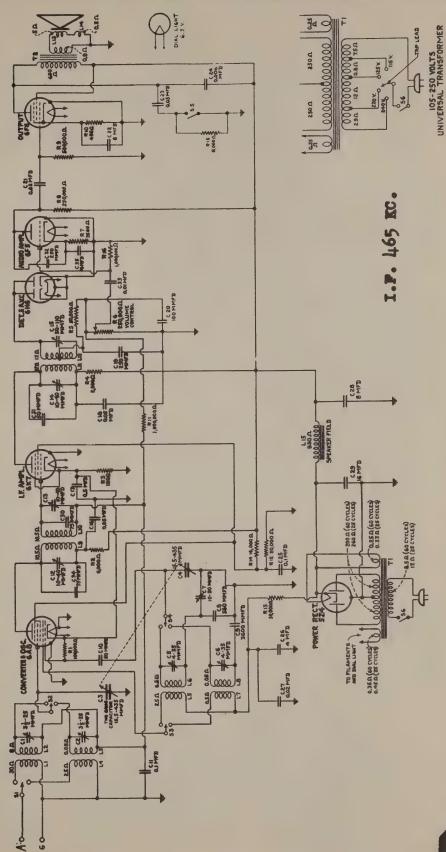


MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS 137 AND 151 AND 152 AND 153 AND 153 AND 154 AND 15





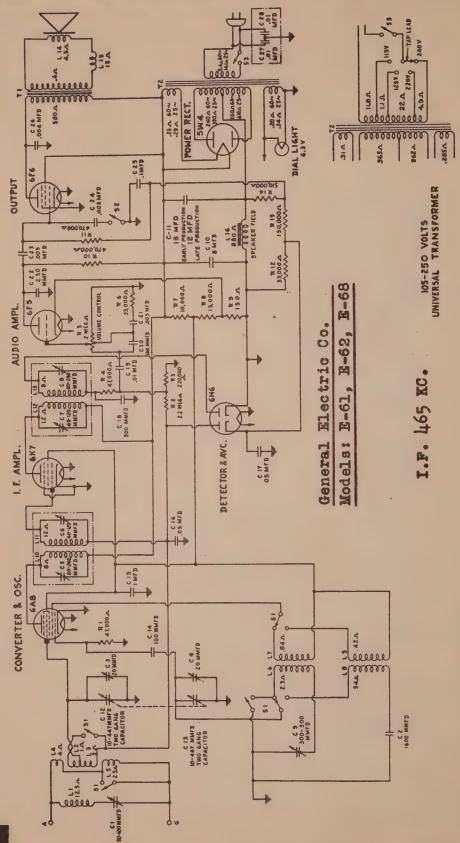




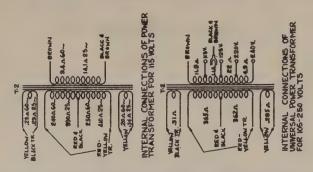
General Electric Co.

Radio Receivers, Models A-63 and A-65

66

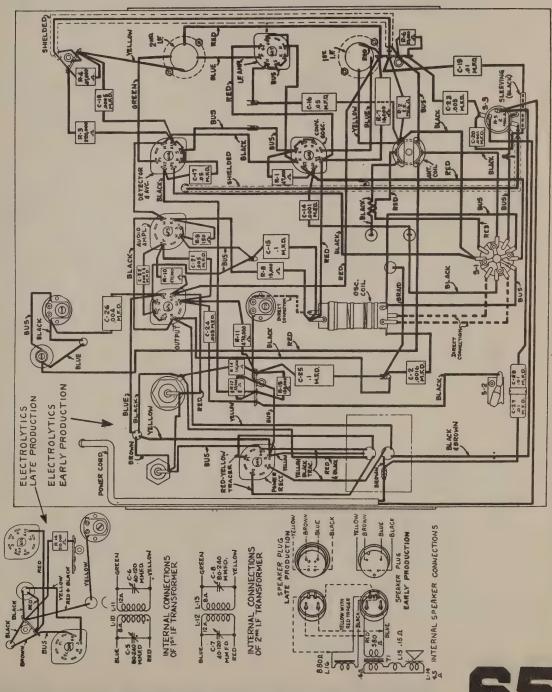


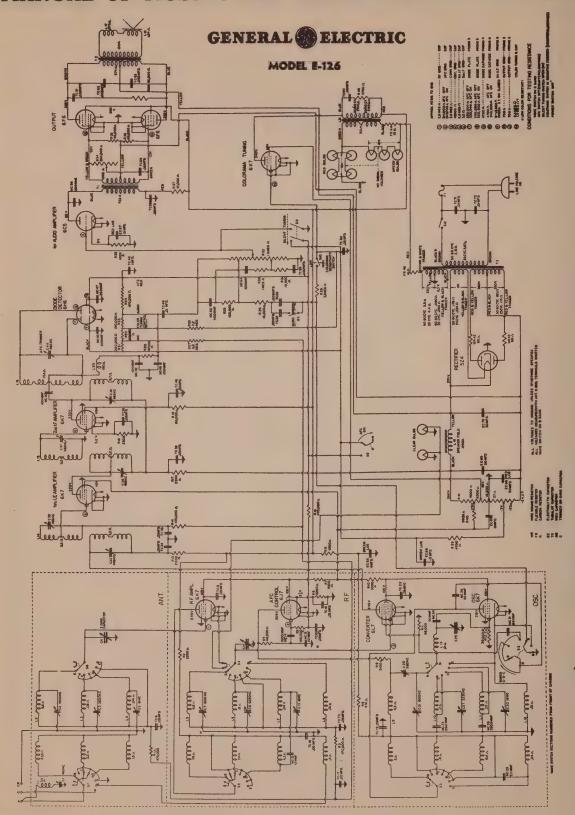
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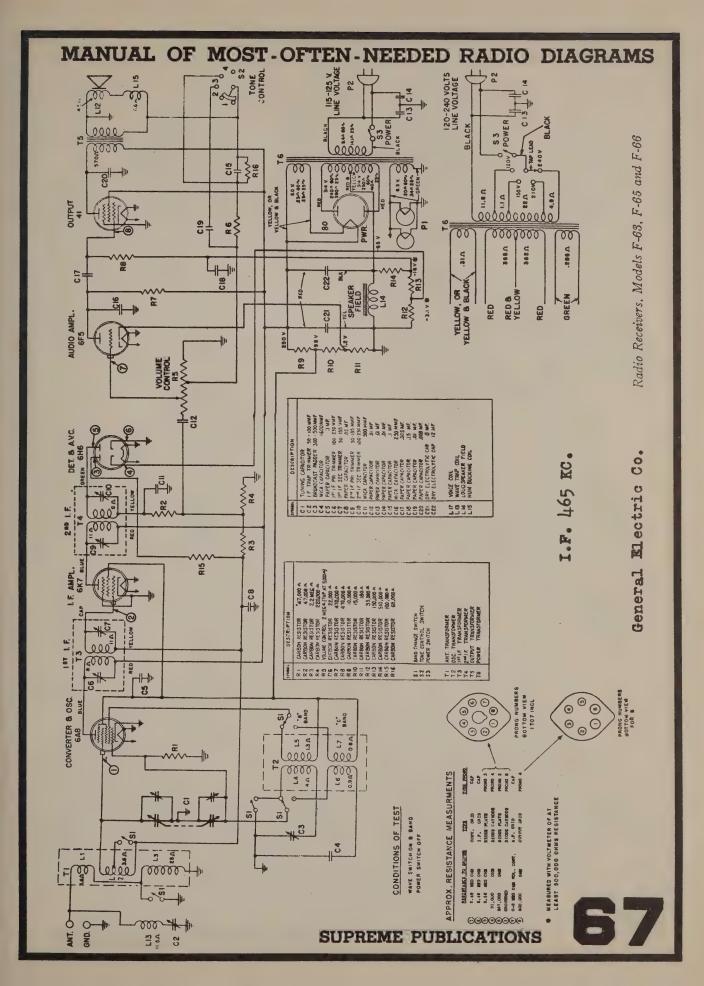
Radio Receivers, Models E-61, E-62, and E-68

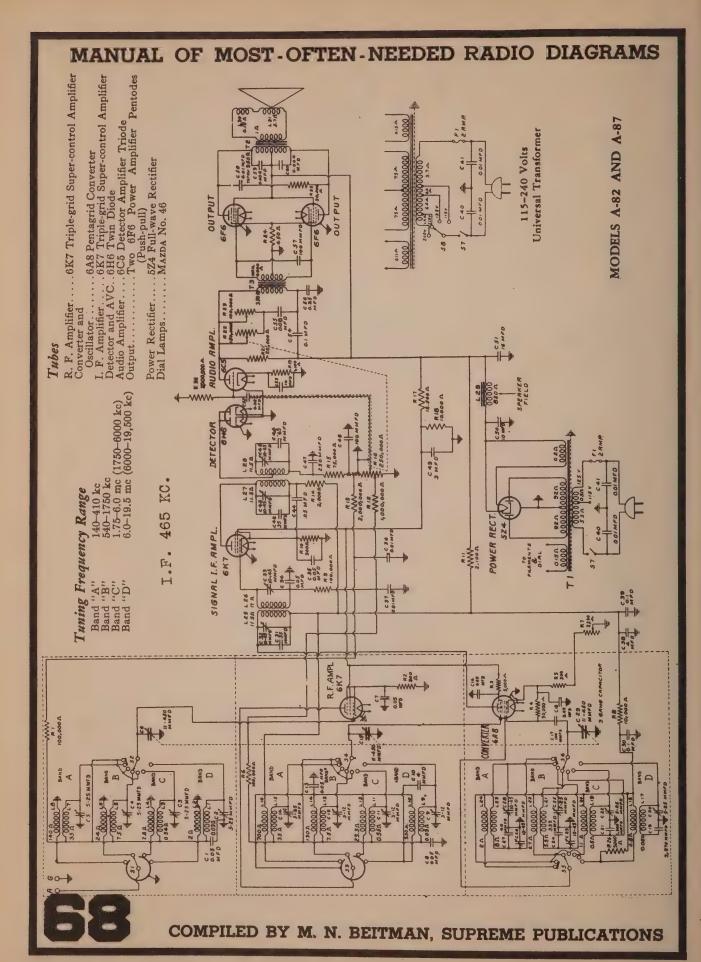
General Electric

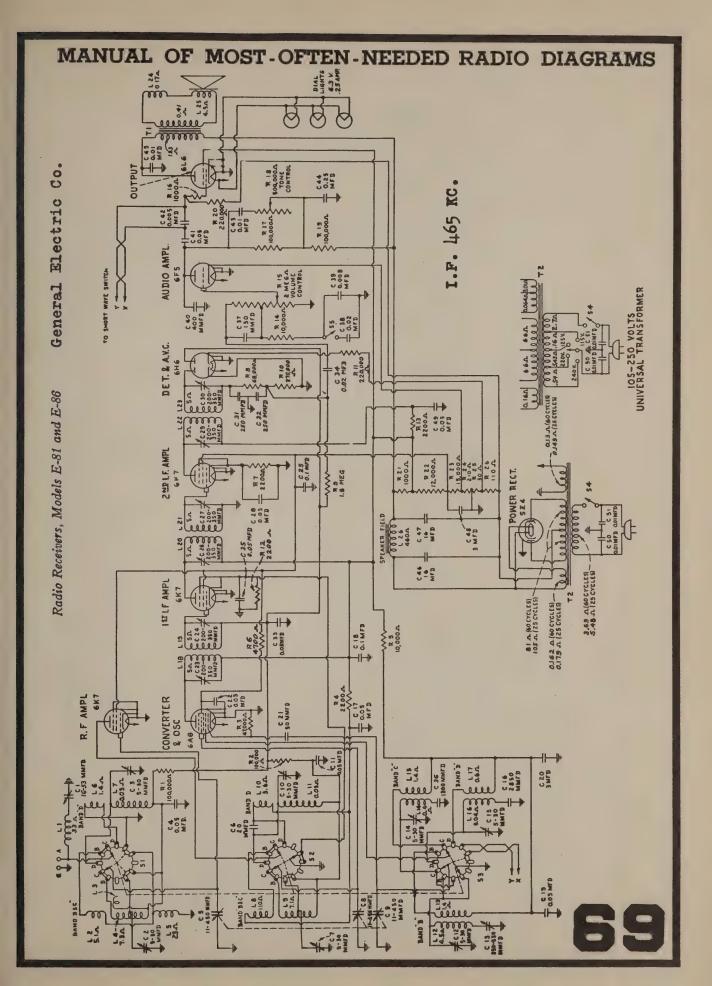


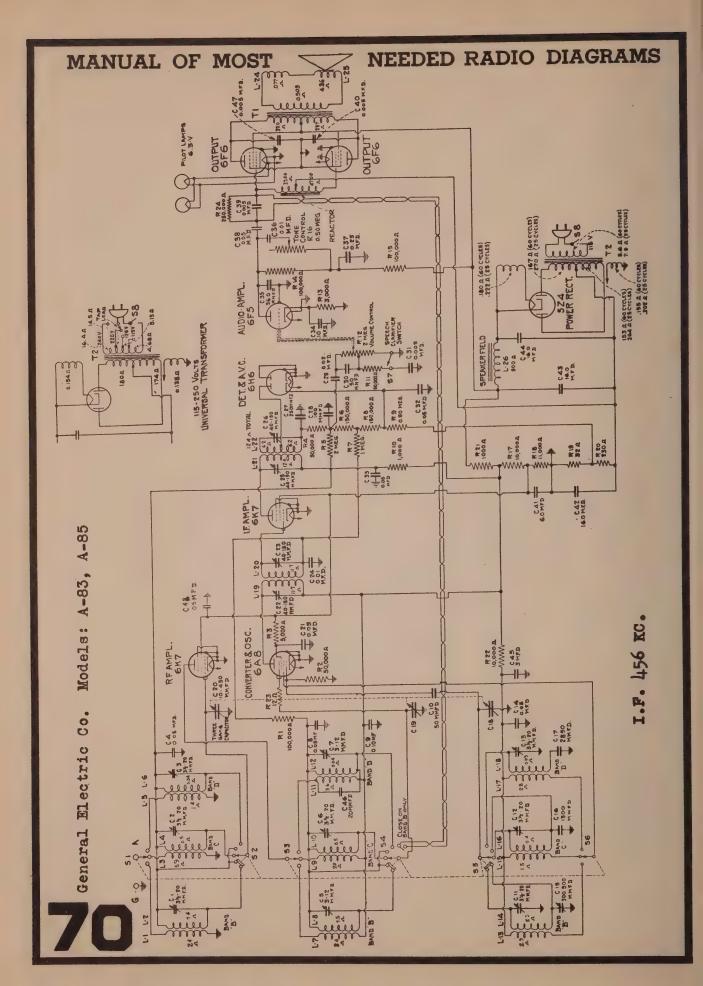


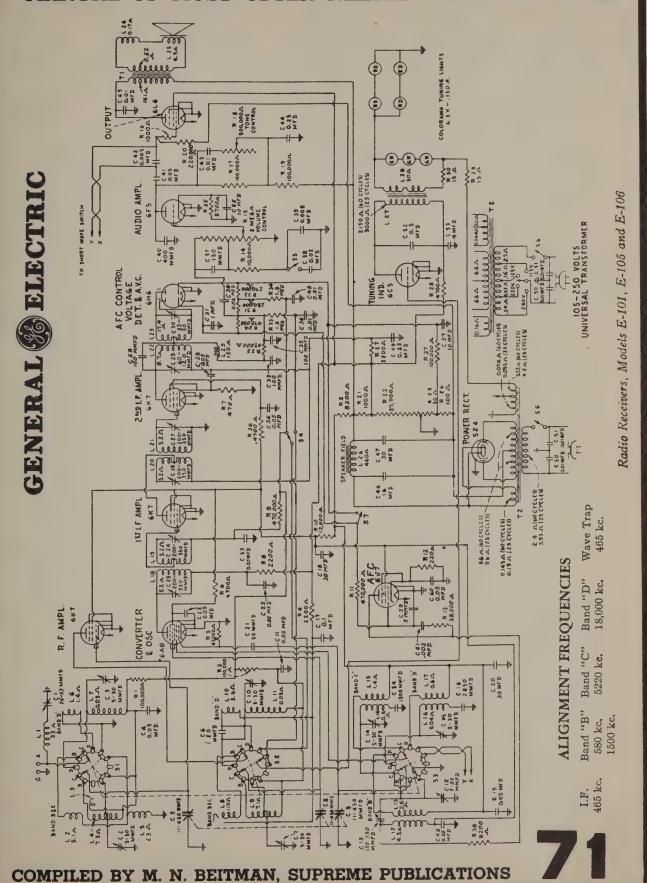


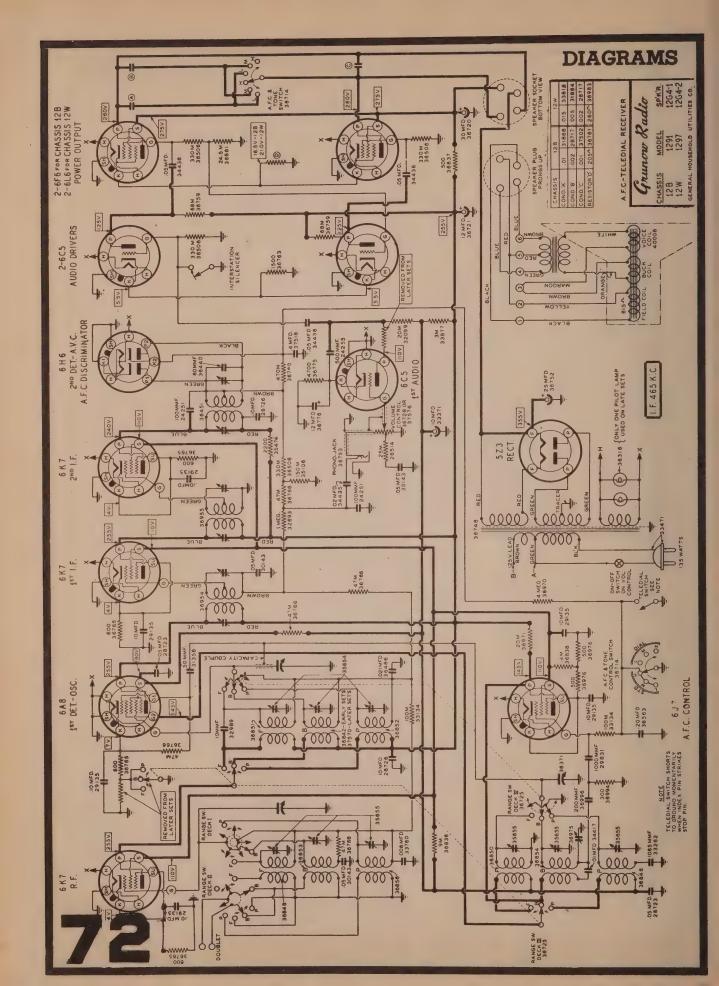


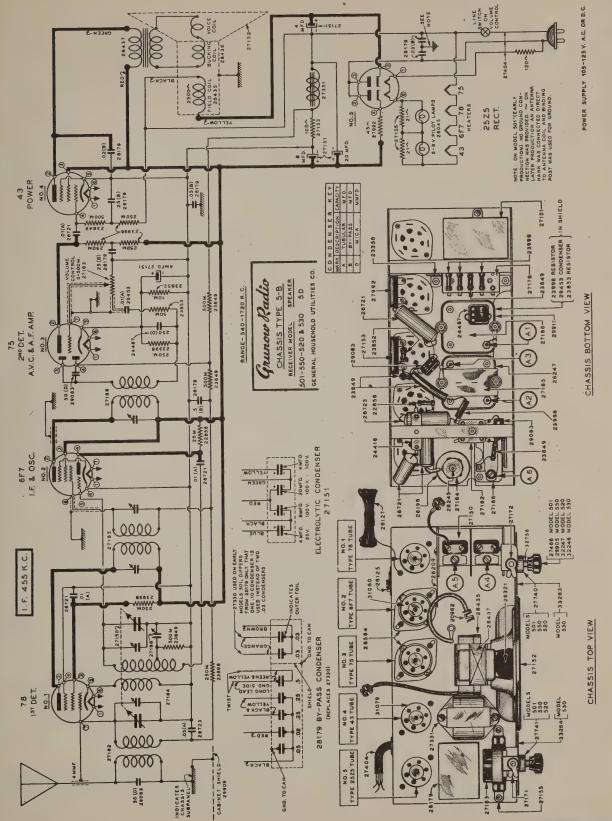


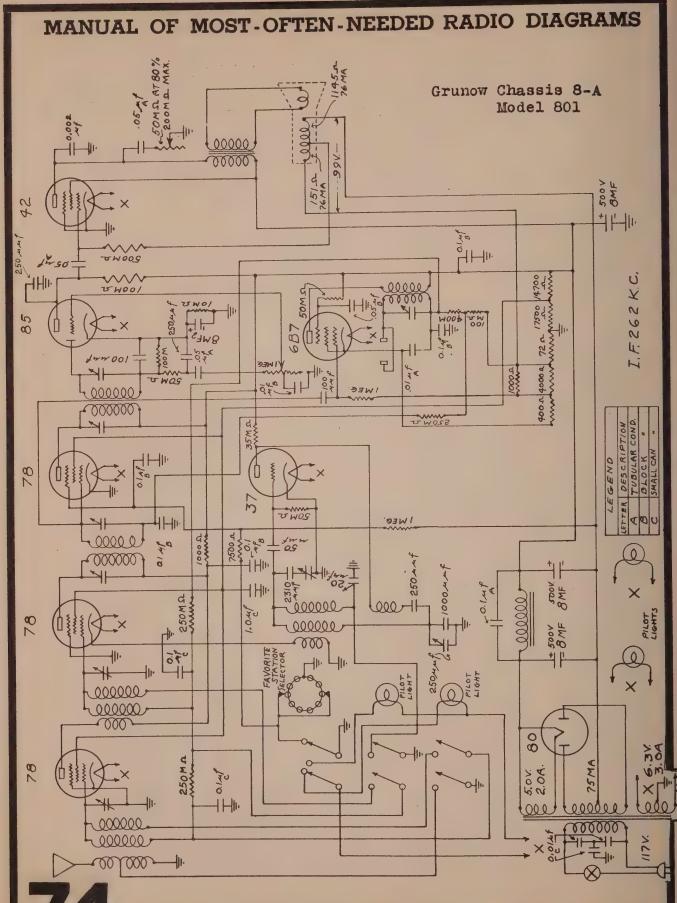


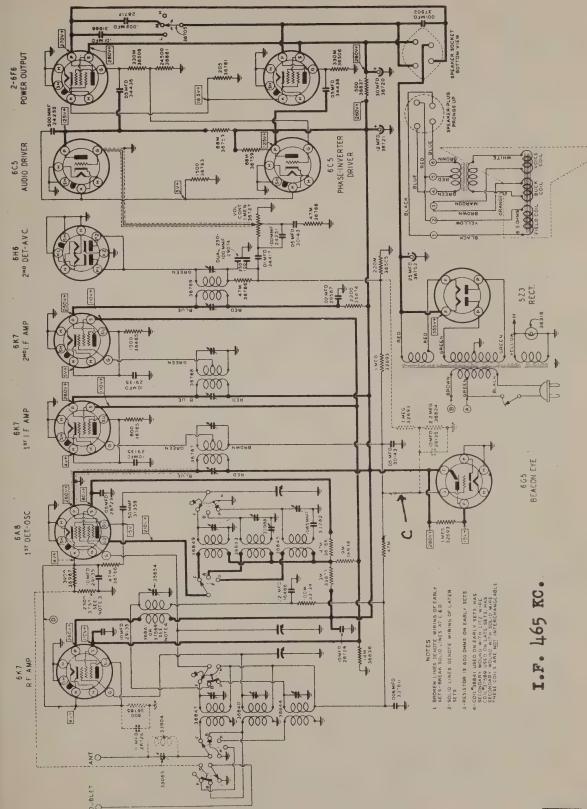






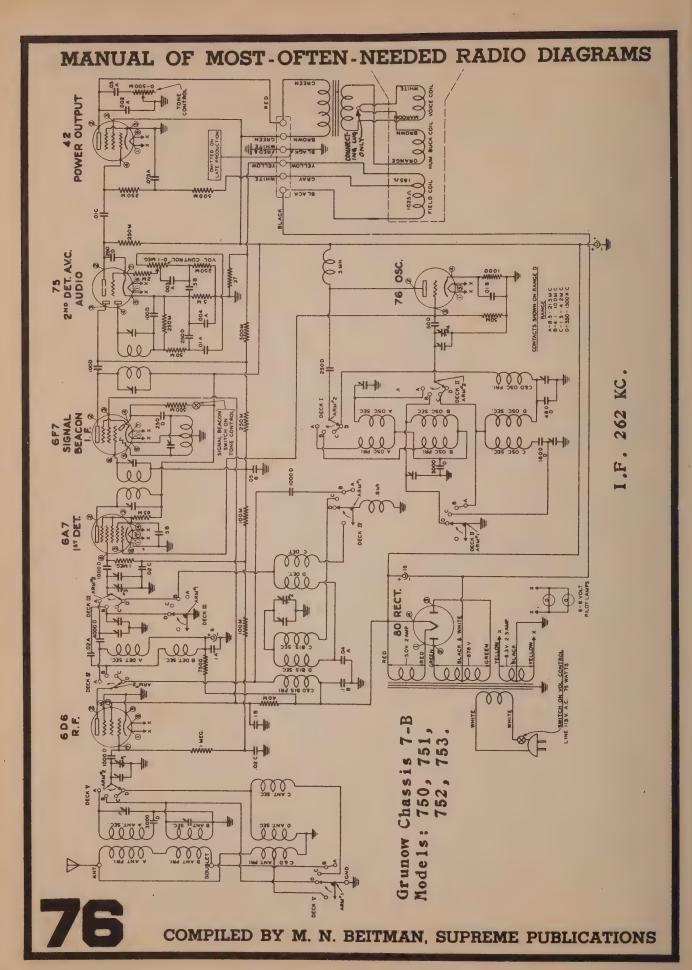






Grunow Chassis 11-G Models: 1191, 1191B

75

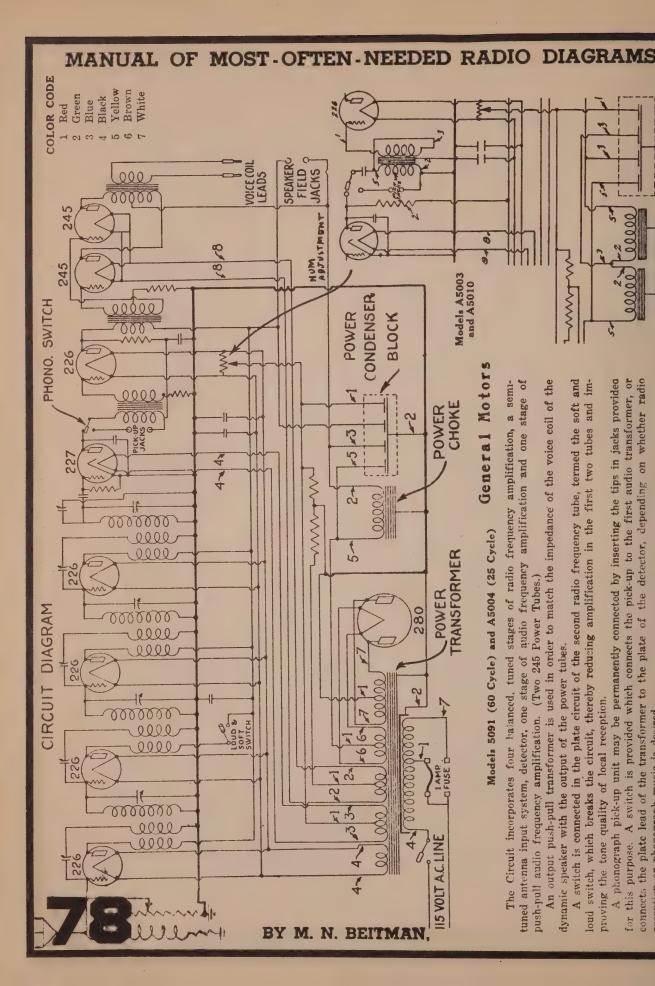


General Motors

MODELS 120, 130 and 140 CHASSIS MODELS "A" and "B"

OUTPUT TRANS 40 -0 OE 00 Selector SPEAKER PLUG RECEPTACLE 0000000 00000 SPERKER CONE RESISTANCE CE COUPLE - IMF 200 V and morning and a DLTECTOR PLATE, FILTER AUDIO CHOKE PESISTORS CONDENSERS WWW. R.F. CHOKE "4 R.F. Coll 000 000000 LEADS The Color TUNING CONDENSER "3 R.F. Coll CONDENSER 0000000 BLOCK 000000000 0000 '2 R.F. Coll 0000000 POWER SWITCH 000000000 2 AMR ANTENNA CHOKE CONDENSER 000000 VOLUME BULBS A.C. COE \$\bar{2}{2} ãO→

Circuit Diagram of Chassis with Serial Numbers Between 29100A and 6200A; and 1700B and 1946B.



connects the plate lead of the transformer to the plate of the detector, depending on whether radio

reception or phonograph music is desired

GRIGSBY GRUNOWCA

127 TUBE

2.5 K

RED

MALLAST DRAWGE

78 Y '50 TUBE

ORANGE 3 BROWN

~~~~

#>

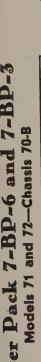
BLUE

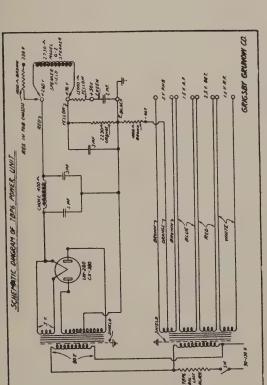
Power Pack 8-P-6 and 8-P-3 Power Dack 7-BP-6 and 7-BP-3 Models 71 and 72—Chassis 70-B

SCHEMATIC DAGRAM OF 8PS & 8P3 POWER UNITS

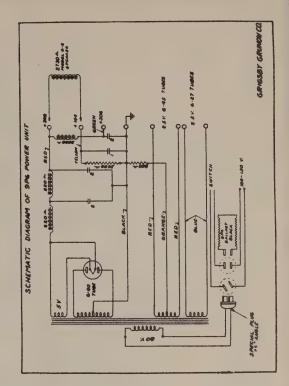
15

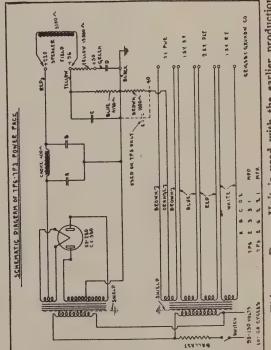
Model 181—Chassis 180



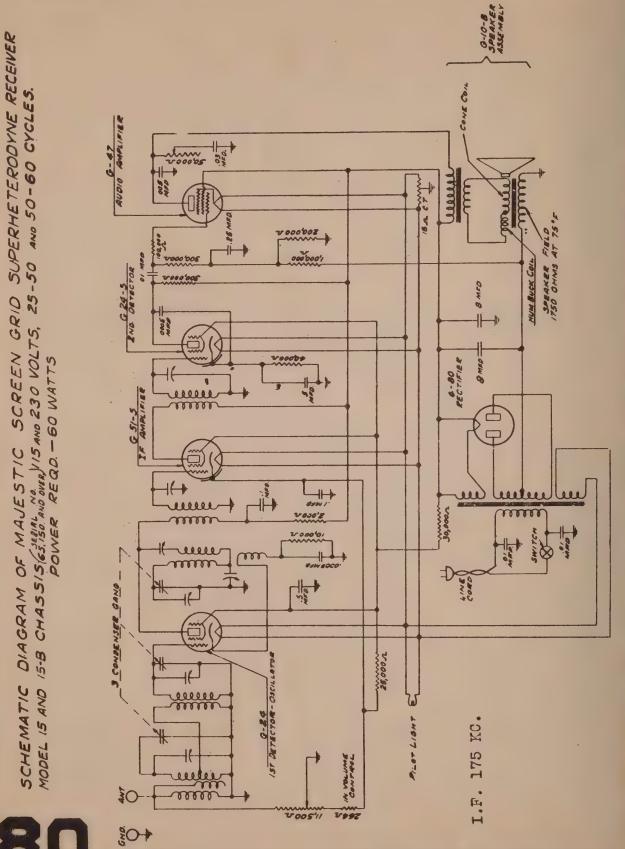


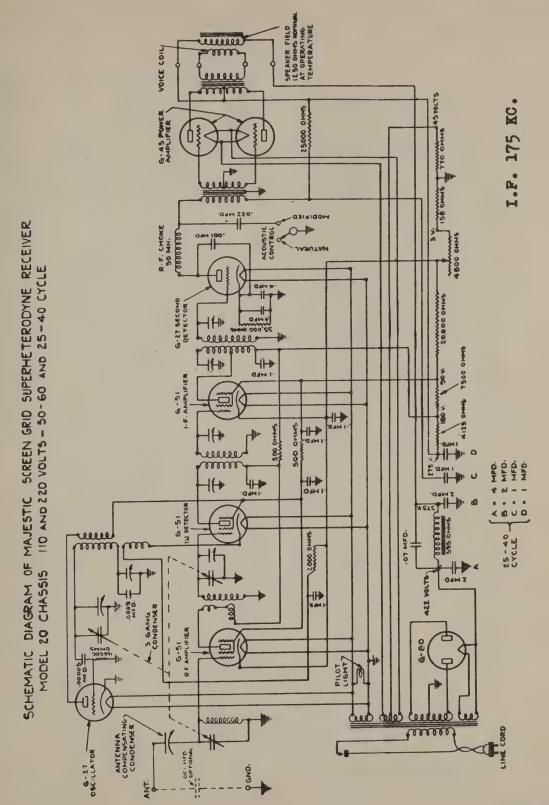
# Power Pack 9-P-6 and 9-P-3 Models 91, 92, 101—Chassis 90 and 100 Power Dack 7-P-6 and 7-P-5 Models 71 and 72—Chassis 70

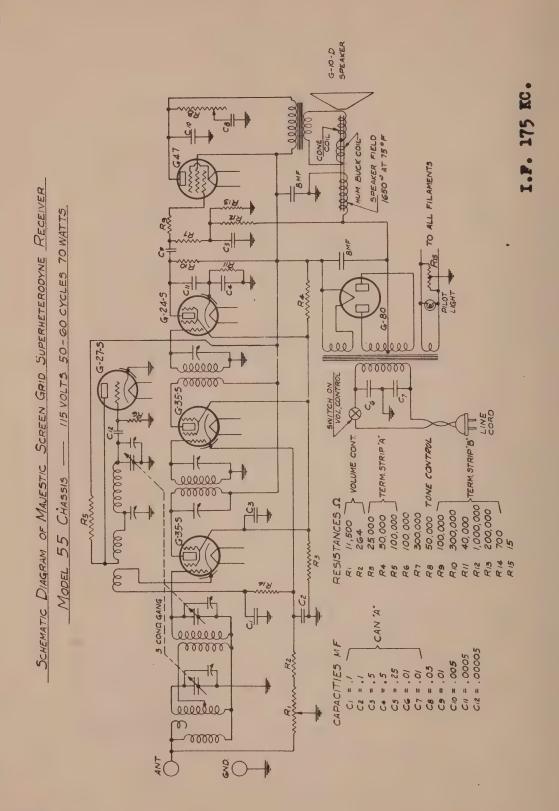




This type Power Unit is used with the earlier production Chassis 70, and has built-in ballast resistor.

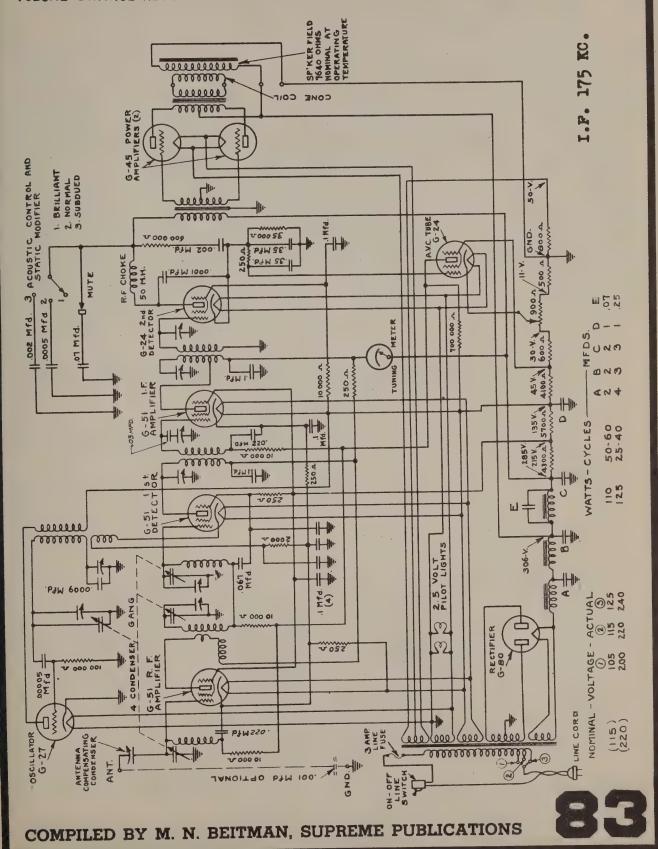




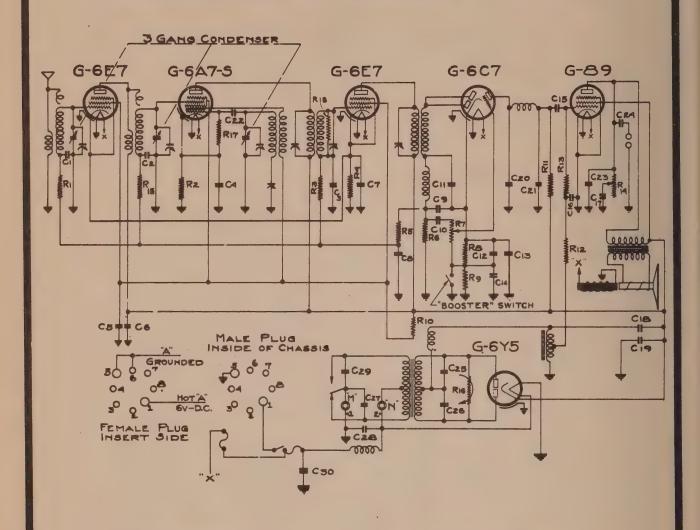


85

SCHEMATIC DIAGRAM OF MAJESTIC SCREEN GRID SUPERHETERODYNE AUTOMATIC VOLUME CONTROL RECEIVER - MODEL 60 CHASSIS 115 AND 220 VOLTS,



# SCHEMATIC DIAGRAM OF MAJESTIC MODEL 66 AUTOMOBILE RECEIVER.



| C | a | N |  | M | 4 | 1 | 4 |
|---|---|---|--|---|---|---|---|

| IJUENO   |
|----------|
| C1625    |
| C17-02   |
| CIS-8.0  |
| C19-8.0  |
| C200005  |
| CZ10005  |
| C2200025 |
| CZ5005   |
| C241     |
| C25008   |
| C26008   |
| C271     |
| C285     |
| C291     |
| C305     |
|          |

#### RESISTORS

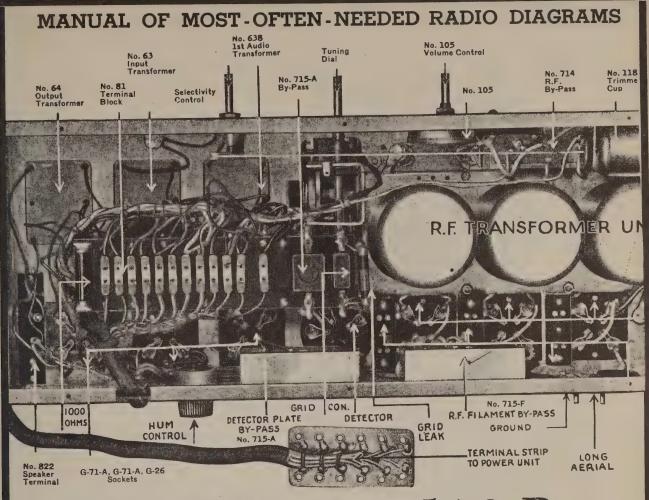
| RI-300,000 | R10- 10,000        |
|------------|--------------------|
| Rz- 250    | R11-200000         |
| R3-300,000 | R12-250 000        |
| R4- 400    | R13-250000         |
| R5-300,000 | RI4- 50.000        |
| R6-100,000 | RIS-300,000        |
| R7-200,000 | RI6-500,000 GLOBAR |
| Re- 2,500  | RIT- 50,000        |
| R9- 10,000 | RIS- 1,000,000     |
|            |                    |

#### & NOTE &

WHEN A+ IS GROUNDED VIBRATOR
LEAD\*I(BLUE)
SHOULD CONNECT TO TERMINAL "M"
(VIDRATOR ARMATURE) AND LEAD\*Z
(BLACK) SHOULD CONNECT TO TRANS.
PRIMARY CENTER TAP(TERMINAL "N)
WHEN A- IS GROUNDED REVERSE
ABOVE CONNECTIONS.

I.F. 175 KC.





# CHASSIS 70 and 70-B

#### Models 71 and 72

#### TUBES

| R. F | G-26 | 1st A. F     | 26       |
|------|------|--------------|----------|
| R. F |      | P. P. Ampl   | 71-A     |
| R. F |      | P. P. Ampl   | 71-A     |
| Det  |      | G-80 Rect Po | wer Unit |

#### THE CIRCUIT

Tuned Radio Frequency. Built upon unit assembly plan.

Chassis. Has the 3 A.F. transformers, the volume control and input circuit, sockets, balancing condensers and by-pass condensers.

Tuning Condenser. 4 gang variable condenser, dial lamp and dial.

R.F. Transformers. Entirely Contained in shield, with leads that connect to various parts. Terminal Strip. Includes power cable, grid condenser, grid leak, detector plate R.F. by-pass condenser, 2 center tapped resistances and 2 bias resistance units.

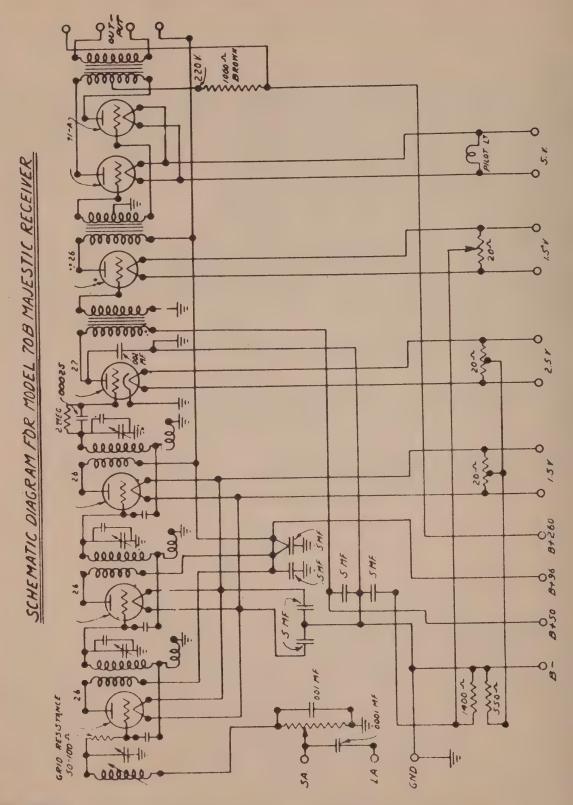
Wiring Cable. Accomplishes the internal wiring of receiver.

#### INPUT SYSTEM AND VOLUME CONTROL

The volume control is effected in the input circuit, making a smooth control due to the fact that R.F. amplifiers are functioning at maximum efficiency at any degree of volume. A potentiometer is placed across the .001 condenser with the movable arm attached to the antenna and controls signal voltage impressed across this condenser.

#### SELECTIVITY CONTROL

Integral with the input system is the antenna trimmer, which operates to vary the inductance of the antenna input coil and permits adjusting the input circuit to exact resonance with the other 3 tuned circuits.



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# HASSIS 90

METHOD OF BIASING
Grid Biasing of the various tubes is accomplished by grounding the grids and applying a positive potential to the cathodes of three tubes.

The bissing of the first, second and third R.F. Tubes is accomplished by the use of a variable resistance from 500 to 2,500 Ohm, which is in series with the volume control resistance and is known as the Equalizer. It is mounted on the rotor shaft of the variable gang condenser and the movable arm turns as the rotor plates are moved. A potential of from 8 to 15 Volt is applied, depending on the tuning dial frequency. The Equalizer is adjusted for a resistance of 1,500 Ohm at 1,000 kilocycles, 500 Ohm at 550 Collocycles, 500 Ohm at 1,500 kilocycles, with 15% allowable variation for the last two measurements. The equalizer adjustment arm is secured by a set screw to the back of the gang condenser frame.

The position and tightness of this arm is important. Make sure that the set screw hold-ing the Equalizer Shaft to the gang condenser just inside the gang frame is against the flat portion of the equalizer shaft.

1.800 Ohm 35.000 Ohm 800 Ohm BIASING 4th R. F. Stage Detector G-45

BIAS VOLTAGE 32 On Power Unit Terminal Strip

# ALIGNING AND BALANCING

Make certain that resonance is obtained for each stage, using both Master Tuning Control and Trimmer. When using dummy tube for balancing, place shield over it, to include capacity effect of shield. A dummy tube having a Grid to Plate of appr. 3.4 m.m.f. is suggested, as this capacity is used when receiver was originally balanced. PROCEDURE OF BALANCING IS THE SAME AS FOR CHASSIS 70, 70B

# ANTENNA SWITCH

To prevent distortion of tone from close-by powerful transmitters on moderately lantenna, snap switch to "Local" position. Use "Distance" position for stations with powerful reception.

Power Unit 9-P-6 and 9-P-3 is described on Page POWER UNIT

later uo 69 On early production models, a fixed condenser of 0001 MFD, capacity production a condenser of 00005 MFD, for the input circuit. INPUT CIRCUIT

# TABLE OF VOLTAGES

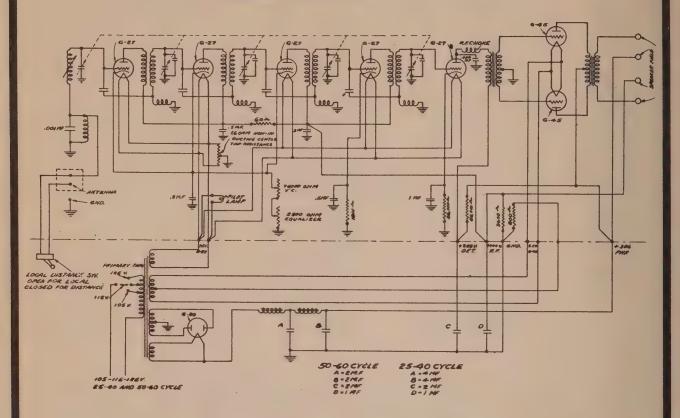
Kilocycles, E 9 70 70 00 The voltage readings given below were taken with the receiver turned to 550 and the volume control set at maximum. When taking comparative readings, that receiver is tuned to 550 kilocycles and volume control is set at maximum.

|              |           |       |       |       |         | Elon |
|--------------|-----------|-------|-------|-------|---------|------|
| T            | lube      | •     | æ     | U     | Cathode | Plat |
| Purpose      |           | Volts | Volts | Volts | Voits   | Σ    |
| 1st R. F.    | G-27      | 2.35  | 130   | œ     | œ       | ιĊ   |
| 2nd R. F.    | G-27      | 2.35  | 130   | œ     | œ       | Ŋ    |
| 3rd R. F.    | G-27      | 2.35  | 130   | œ     | œ       | Ŋ    |
| 4th R. F.    | G-27      | 2.35  | 130   | 6     | 6       | Ŋ    |
| Detector     | G-27      | 2.35  | 270   | 30    | 30      | _    |
| Power        | G-45      | 2.45  | 250   | 20    | :       | 32   |
| Power        | G-45      | 2.45  | 250   | 20    | :       | 32   |
| Rectifier    | G-80      | :     | ::    | :     | :       | :    |
| Line Voltage | 115 A. C. |       |       |       |         |      |

| 750                                         | OOOO RES OOM RES                                          |                      |         | G-45 0000000 0000000000000000000000000000 |
|---------------------------------------------|-----------------------------------------------------------|----------------------|---------|-------------------------------------------|
| ODOOS MED.  EQUALIZER SOO TO 2500 OHMS GNO. | NON- INDUCTIVE CENTER TAP I.6 OHMS TOTAL; PILOT LAMP 25 Y | /800 ONN 35000 GREEN | -6 +308 | 144 ±308<br>AMR                           |

# **CHASSIS 90-B**

Models 90, 91, 93



#### ANTENNA SWITCH

To prevent distortion of tone from close-by powerful transmitters on moderately long antenna, snap switch to "Local" position. Use "Distance" position for stations with less powerful reception.

#### ADJUSTMENT FOR LINE VOLTAGE

On the left side, directly in front of the G-80 Socket, you will note a small plate. Determine with A. C. Voltmeter or from local power company the average line voltage.

Upon removing the adjustment plate, you will find three taps, marked 105 Volts, 115 Volts and 125 Volts.

#### TABLE OF VOLTAGES

The voltage readings given below were taken with the receiver turned to 550 kilocycles, and the volume control set at maximum. When taking comparative readings, be certain that receiver is tuned to 550 kilocycles and volume control is set at maximum.

| Tube       |      | Filament | Plate   | Grid Bias | Cathode | rmal Plate<br>Milli- |
|------------|------|----------|---------|-----------|---------|----------------------|
| Purpose    | Туре | Voltage  | Voltage | Voltage   | Volts   | amperes              |
| 1st R. F.  | G-27 | 2.35     | 130     | 8         | 8       | 5.5                  |
| 2nd R. F.  | G-27 | 2.35     | 130     | 8         | 8       | 5.5                  |
| 3rd R. F.  | G-27 | 2.35     | 130     | 8         | 8       | 5.5                  |
| 4th R. F.  | G-27 | 2.35     | 130     | 9         | 9       | 5.0                  |
| Detector   | G-27 | 2.35     | 230     | 25        | 25      | .8                   |
| Power      | G-45 | 2.45     | 250     | 50        |         | 32                   |
| Power      | G-45 | 2.45     | 250     | 50        |         | 32                   |
| Rectifying | G-80 | • • •    |         |           | * **    |                      |

#### THE CIRCUIT

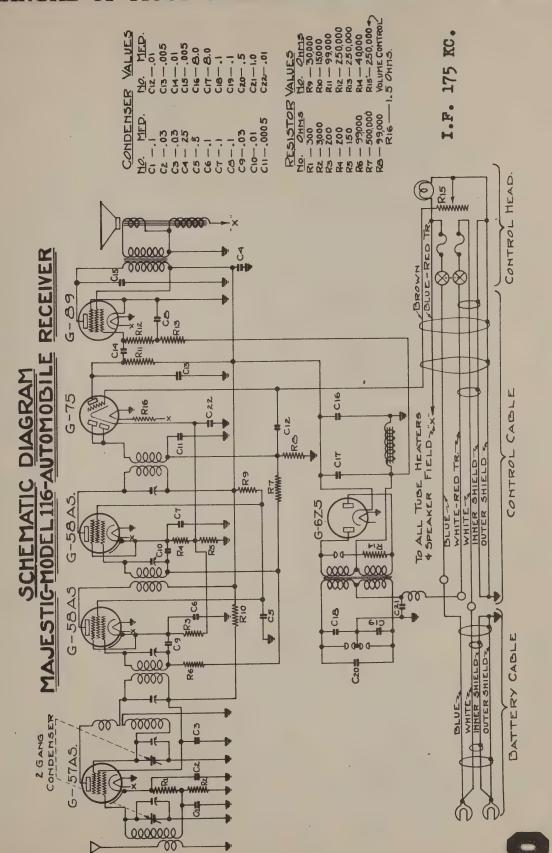
The T.R.F. balanced circuit is employed with a single control, five gang condenser. The detector output is fed directly to the push-pull audio stage. The selectivity control or trimmer functions by varying the inductance of the antenna input coil and permits adjustin the input circuit to exact resonance with the other turned circuits.

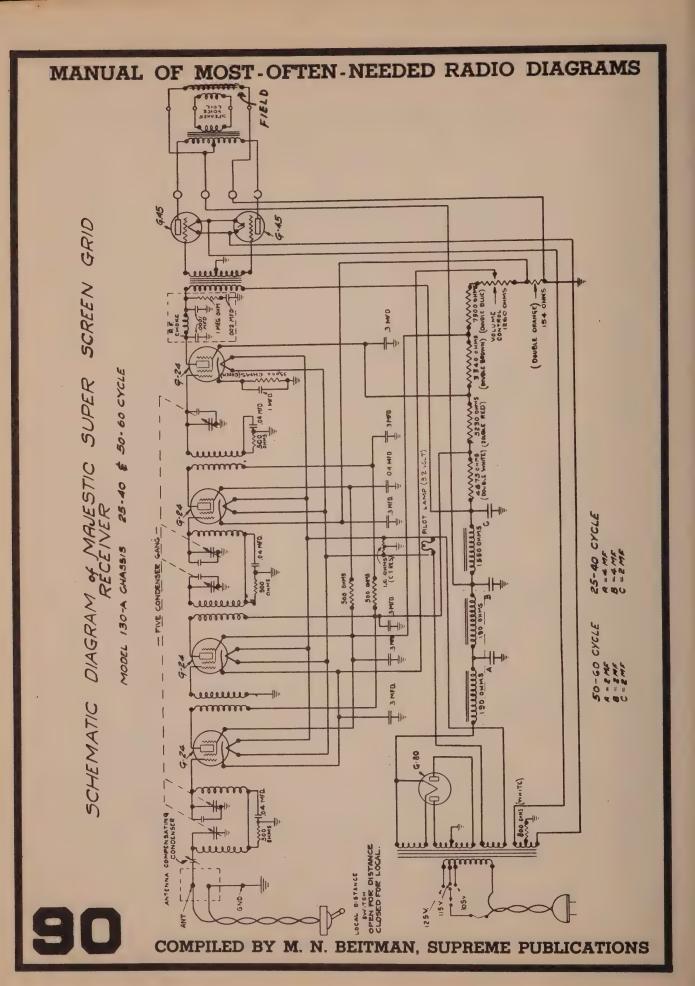
The R. F. Unit assembly (No. 1434) includes the radio frequency transformers with shields, the R. F. Sockets, the balancing condensers and the radio frequency, cathode and plate By-Pass Condensers. The terminal strip includes one 800 Ohm, one 1,800 Ohm and one 50,000 Ohm Resistor, being the bias resistors of the Power Tubes, the 4th R.F. Tube and the Detector Plate resistance respectively.

#### POWER SUPPLY

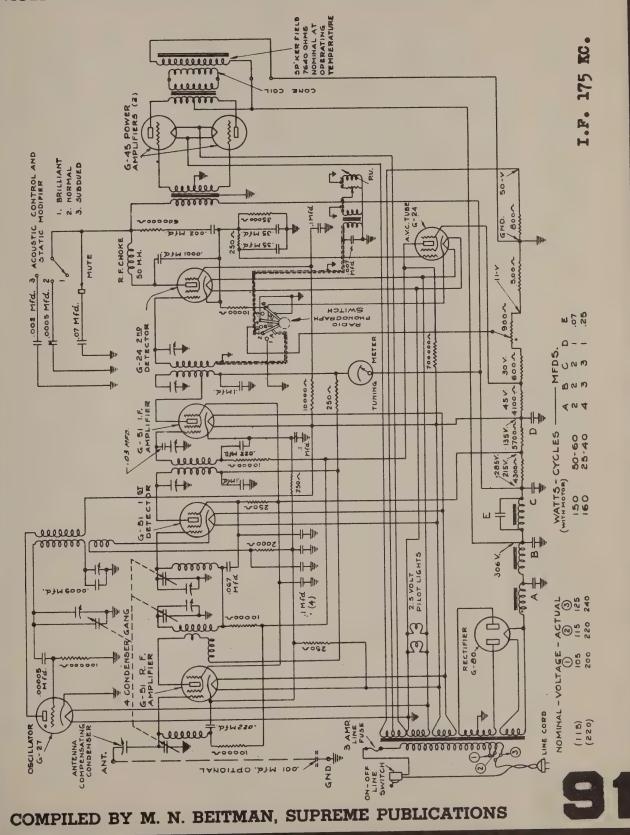
Composed of Power Transformer, a Choke Unit and Condenser Bank for the filter system. The resistors (800 and 3,600 Ohm) are placed on terminal strip. A Type G-80 Rectifying tube is used.

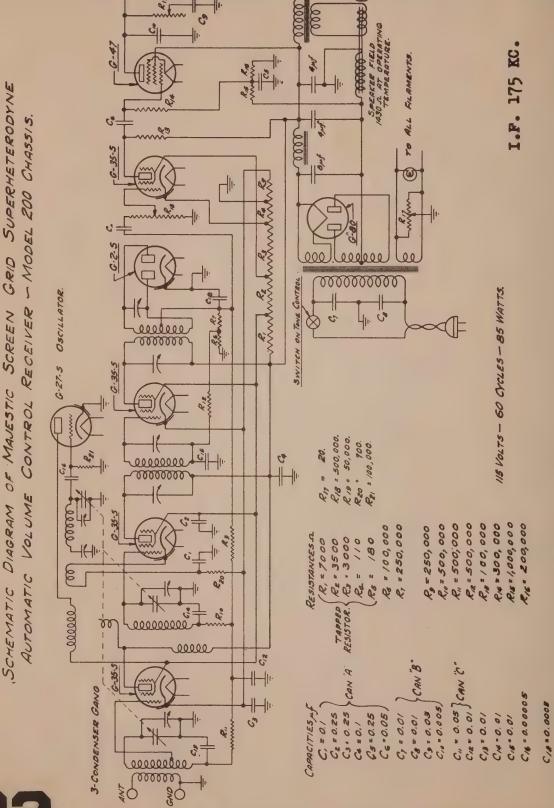




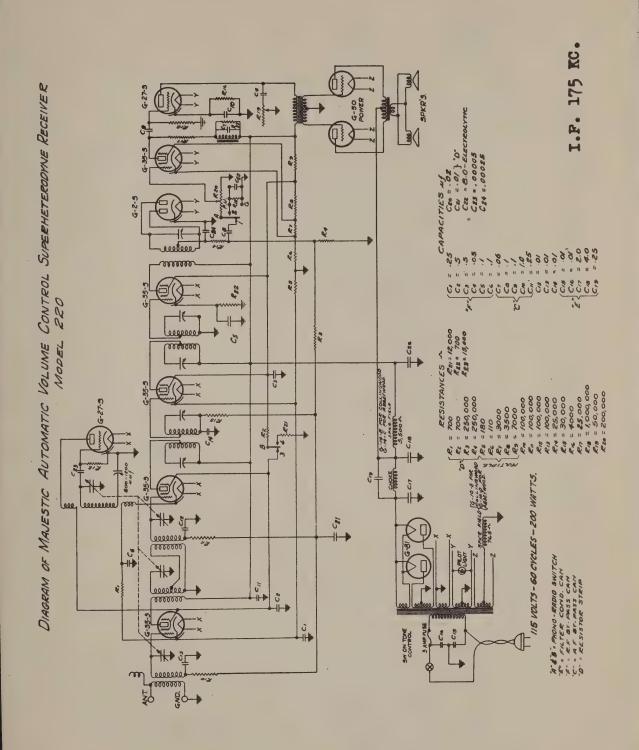


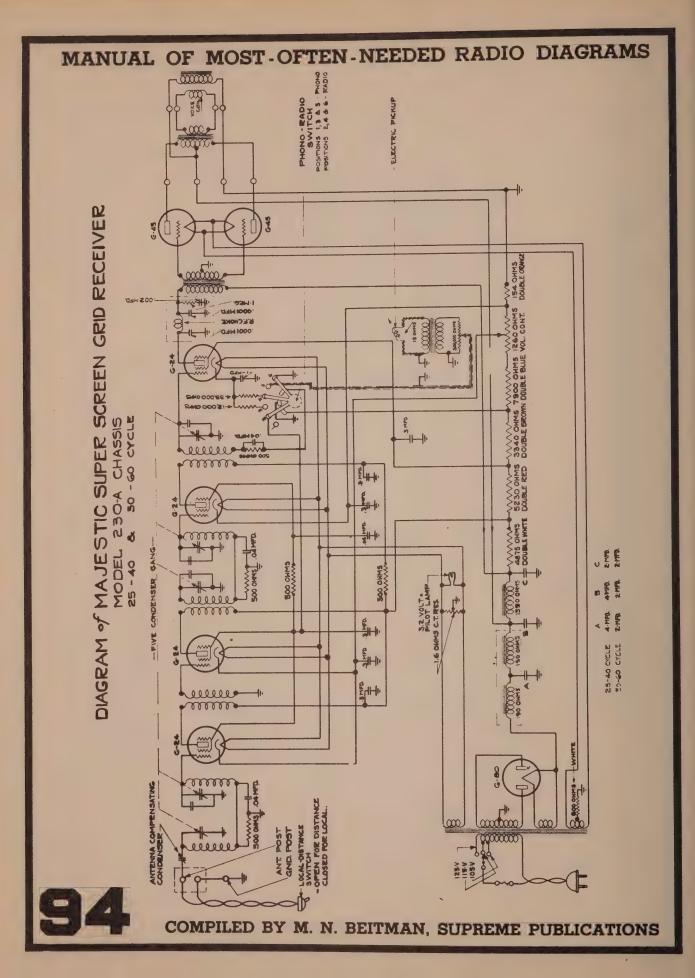
SCHEMATIC DIAGRAM OF MAJESTIC SCREEN GRID SUPERHETERODYNE AUTOMATIC. VOLUME CONTROL RECEIVER AND ELECTRIC PHONOGRAPH COMBINATION MODEL 160 CHASSIS 115 AND 220 VOLTS, 25 - 40 AND 50 - 60 CYCLES.





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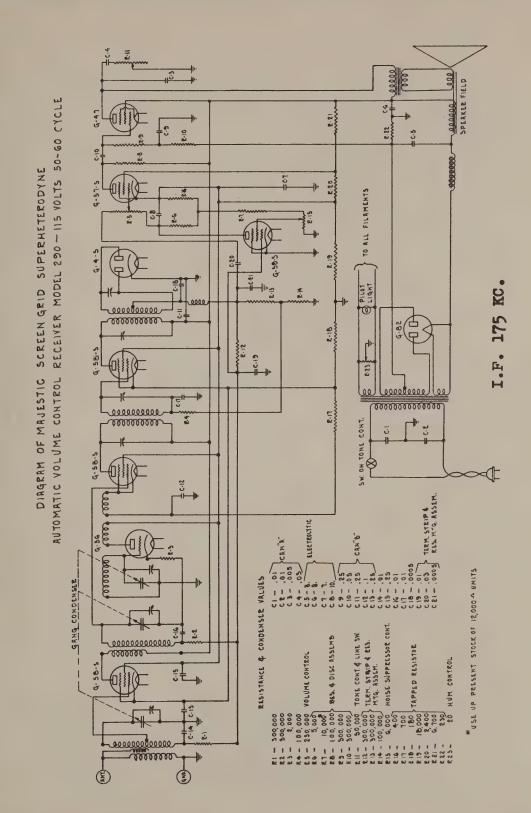
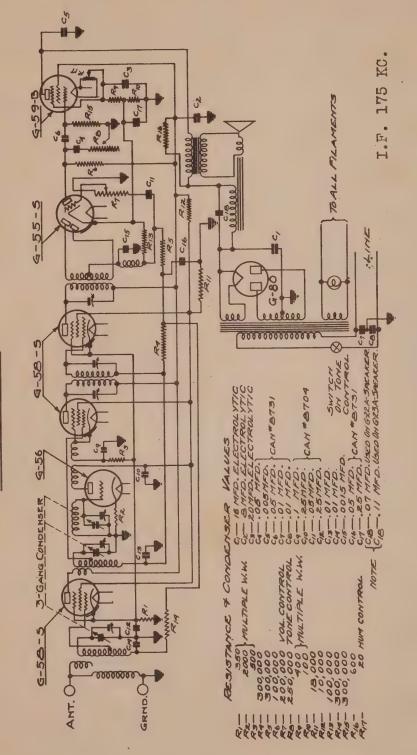
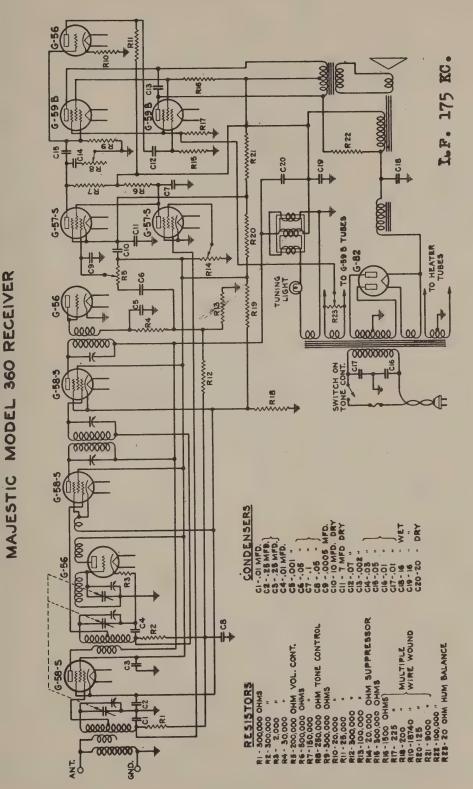


DIAGRAM OF MAJESTIC AUTOMATIC VOLUME CONTROL SUPERHETERODYNE MODEL



Automatic valume control bias voltage is developed across resistors R-13 and R-10 and is applied to the grid of the radio frequency, first detector and intermediate frequency tubes to control their amplification. The manual volume control is a 200,000 ohm potentiometer which is connected in the grid circuit of the G-55-S tube and works entirely independent of the automatic volume control.



SCHEMATIC DIAGRAM OF

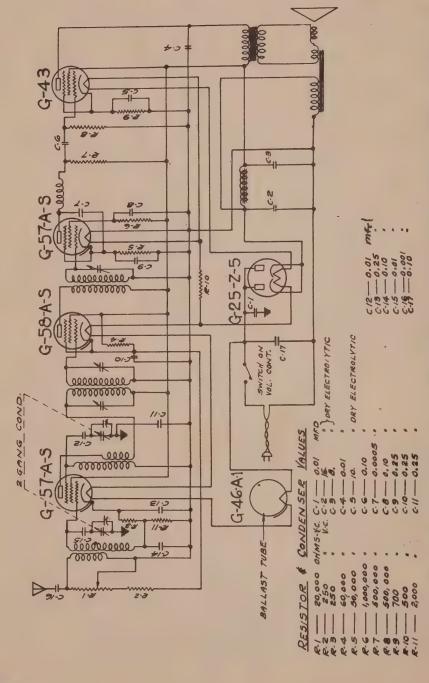
The Model 360 is an eleven tube chassis designed for single speaker operation in the Model 363 receiver. This chassis is very similar to the Model 300 chassis in that it The tubes employed and their respective stages are as.follows: G-58-S, R.F. amplifier; G-56, Oscillator: G-58-S, first detector; G-58-S, I.F. amplifier; G-56, second detector; G-57-S, first audio amplifier, G-57-S, suppressor; provides Synchro-Silent Tuning, resistance coupled push-pull output, reactance phase rotator; two G-59-B push-pull output and G-82 rectifier action and automatic volume control. G-56,

#### DIAGRAMS MOST-OFTEN-NEEDED RADIO MANUAL OF

#### CHASSIS MODEL 400

and

# MODEL G-26-C SPEAKER



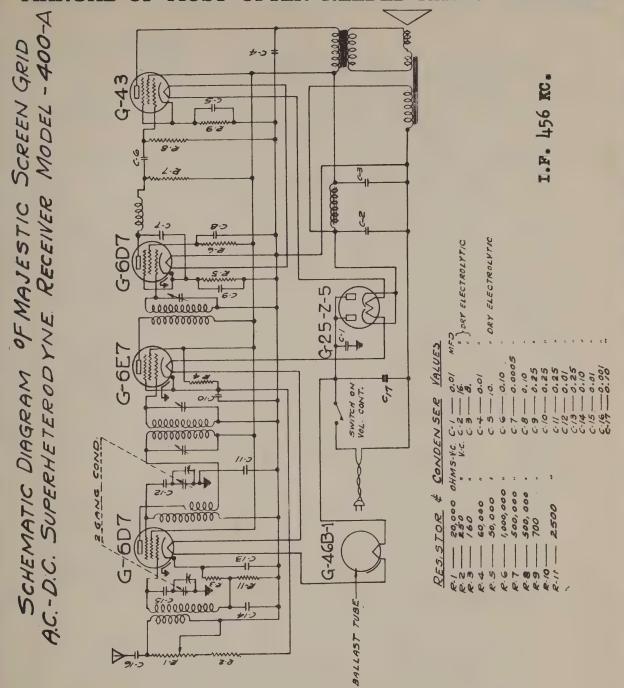
1 - With the volume control in maximum volume position and the gang condenser completely out of mesh, supply a 456 K.C. signal to the grid of the modulator tube and adjust the I.F. tuning condensers for maximum sensitivity.

# ALIGNMENT PROCEDURE

trimmer condensers for maximum 2 - With the gang condenser and volume control in the same position, supply a 1730 signal to the input of the receiver and align the 2 R.F. sensitivity.

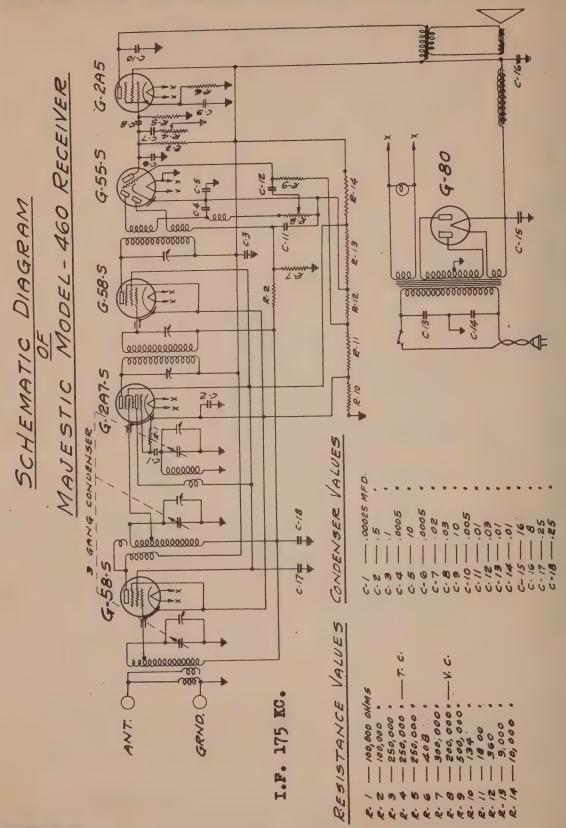


A.C.-D.C. SUPERHETERODYNE RECEIVER MODEL - 400 SCHEMATIC DIAGRAM OF MAJESTIC SCREEN GRID



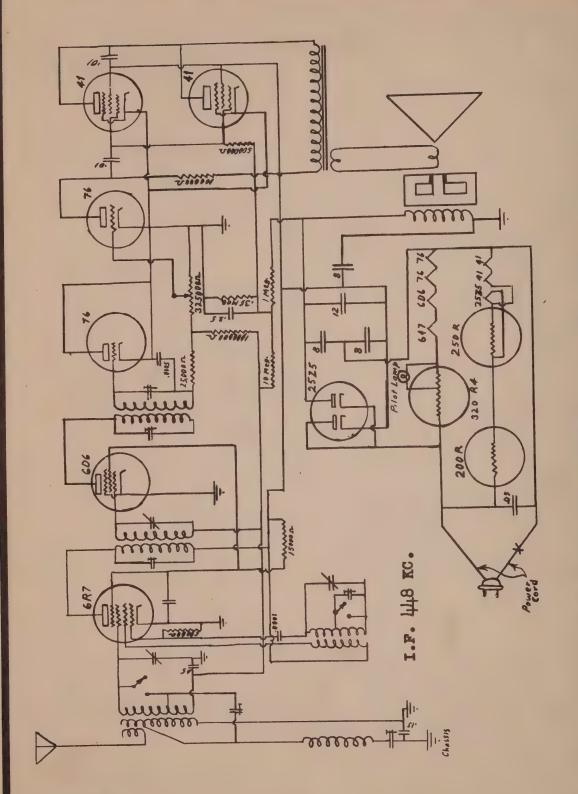
The circuit of the Model 400-A chassis is practically the same as that of the Model 400. The main differences being that the types G-6D7 and G-6E7 tubes are used in place of types G-57A-S and G-58A-S respectively; and that a type G-46A-l tube is used as a ballast in place of the G-46B-1.

Resistors R-3 and R-11 have a value of 160 and 2500 ohms respectively in the Model 400-A chassis while they have a value of 250 and 200 ohms in the Model 400 chassis. Resistor R-10 is omitted entirely.



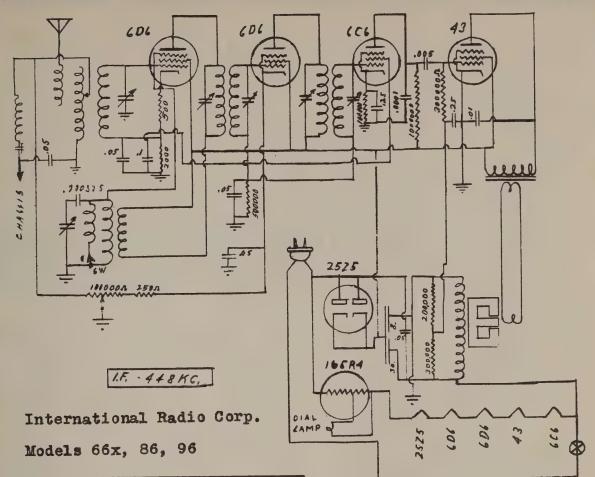
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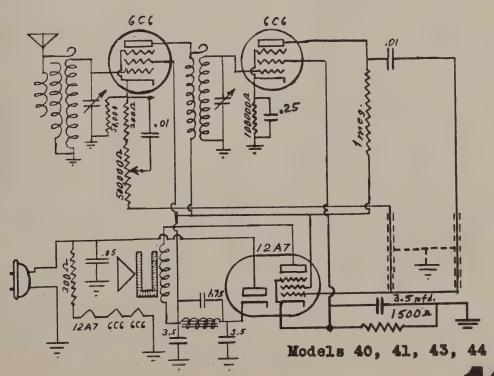
#### MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS 0000000 250,000 400,000 250 250 30,000 25,000 25,000 200 26,000 100,000 1 meg 4000 000 CIJ 018 00 80 00000 64. 42 I.F. 465 KC. MODEL 5T 75 9 9 9 400 . The HALLICRAFTERS inc. 00000 250 mmf .01 .05 8.mfd 4.mfd **6F7** 00000000 C14 C15 C16 C17 C18 C18 00000 **6A7** 8 200 \$ 00 % 00 % 00 % 200 809 10 mmf 5 × × یو لعفا 00 00 00/00 00 27 ū VELLOW MED PFYCH COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

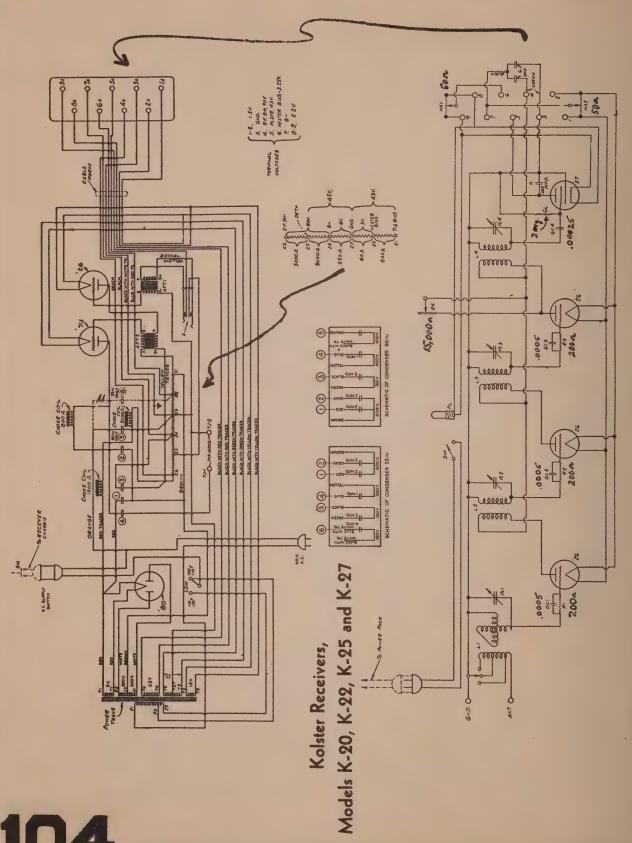


International Radio Corp. Model 1019

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# Simplified Radio Servicing by COMPARISON Method

Repair radios in minutes instead of hours. Revolutionary different COMPARISON technique permits you to do expert work on all radio sets. Most repairs can be made



without test equipment or with only a volt-ohmmeter. Many simple, point-to-point, cross-reference, circuit suggestions locate the faults instantly. Plan copyrighted. Covers every radio set—new and old models. This new servicing technique presented in handy manual form, size 8½x11 inches, 72 pages. Over 1,000 practical service hints. 26 large, trouble-shooting blueprints. Charts for circuit analysis. 114 tests using a 5c resistor. Developed by M. N. Beitman. New 1945 edition. Net Price \$1.50

# Supreme Publications

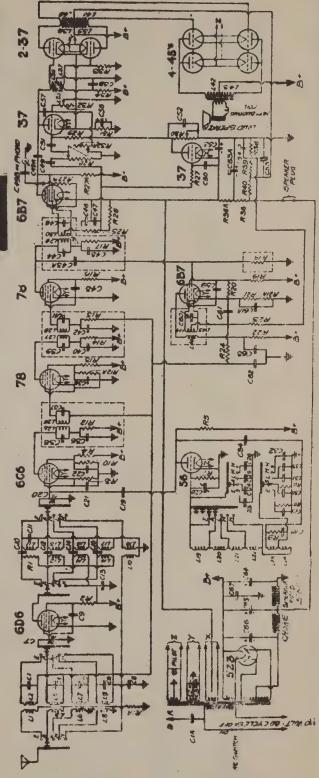
PUBLISHERS OF RADIO BOOKS, MANUALS, AND DIAGRAMS



THE MIDWEST RADIO CORP.

SCHEMATIC CHICUIT DIAGRAM
OF THE

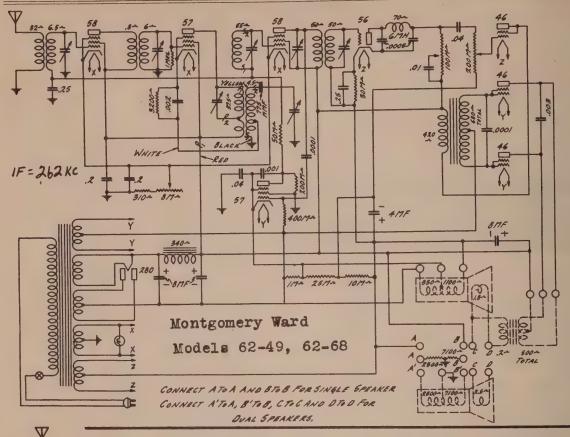
MODEL 16-34 SET

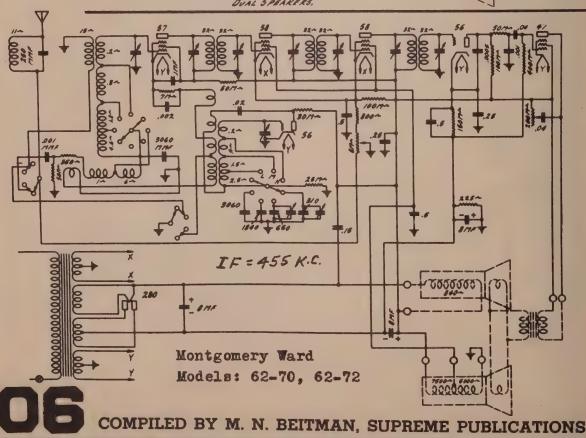


I.F. 450 KC.

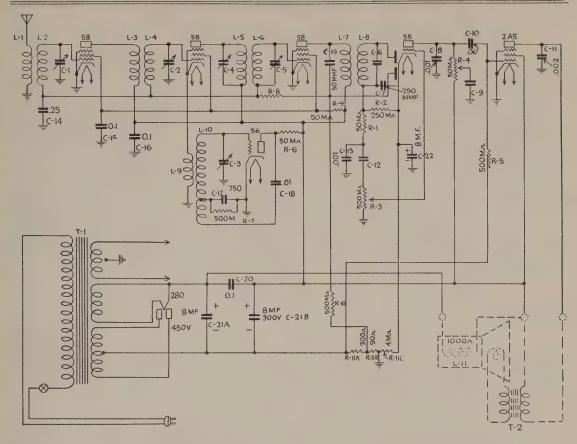
105







MONTGOMERY WARD & Co.



#### Circuit

The complete circuit consists of a type 58 tube functioning as an R. F. Amplifier, followed by another type 58 tube operating as a 1st detector, or mixer tube. A type 56 tube is used as an oscillator.

The I. F. amplifier utilizes a type 58 tube and is followed by the type 55 tube described above, functioning as a second detector, A. V. C. and first audio amplifier. A type 2A5 is used in the power audio stage.

The 58 R. F. Amplifier Tube is inductively coupled to the antenna by means of the antenna transformer, L-1, L-2, the secondary of which is tuned by one section of the three gang Tuning Condenser.

The second R. F. or first detector transformer provides inductive coupling between the plate circuit of the 58 R. F. Tube and grid circuit of the 58 1st Detector Tube. The secondary of this transformer is tuned by the second section of the three gang Tuning Condenser.

The stage of R. F. amplification consisting of the 58 R. F. Tube, together with its associated R. F. Transformers serves the double purpose of increasing the sensitivity and selectivity of the receiver as well as practically eliminating image or double frequency response.

Grid bias for the 58 R. F. Tube is variable and is controlled by the A. V. C. diode in accordance with the strength of the incoming signal.

A type 58 Tube is used as a first detector or mixer which is of the bias type. The grid bias of this tube is also controlled by the A. V. C.

The oscillator is of the tuned grid type and is tuned by the third section of the three gang Tuning Condenser.

The oscillator frequency is exactly 262 K. C. above the frequency of the received signal. To provide that the oscillator shall track accurately it is provided with a 675 Mmf. Series Padder Condenser, C-17, and also a shunt trimmer condenser which allows accurate alignment at high frequencies.

No. 62-99 AND 62-97

#### Voltages at Sockets

Line Voltage 115-Volume Control at Maximum

| Type of Tube | Position of<br>Tube | Function  | "A" Volts | "B" Volts  | Control Grid<br>"C" Volts | Screen Grid<br>Volts | Screen Current<br>MA | Plate Current<br>MA | Cathode Volts |
|--------------|---------------------|-----------|-----------|------------|---------------------------|----------------------|----------------------|---------------------|---------------|
| 56           | 1                   | Osc.      | 2.3       | 110        | 15-30(1)                  |                      |                      | 3-3.4(1)            | 0             |
| 58           | 2                   | R. F.     | 2.3       | 260        | $2.0(^{2})$               | 90(3)                | 1.2                  | 4.8                 | 0             |
| 58           | 3                   | 1st Det.  | 2.3       | 260        | $2.0(^{2})$               | 90(3)                | 1.3                  | 5.4                 | 0             |
|              |                     |           |           |            |                           |                      |                      |                     |               |
| 58           | 4                   | I. F.     | 2.3       | 260        | $2.0(^{2})$               | 90(3)                | 1.2                  | 4.6                 | 0             |
| 55           | 5                   | 2nd Det.  | 2.3       | Diode 1-0  |                           |                      |                      |                     |               |
|              |                     | AVC-1st   |           | Diode 2-3  |                           |                      |                      |                     |               |
|              |                     | Audio     |           | Triode 135 | 2.0(5)                    |                      |                      | 4.6                 | 12            |
| 0.4.0        |                     |           |           |            |                           |                      |                      | 4.0                 |               |
| 2A5          | 6                   | Power     | 2.3       | 255        | 3.0(6)                    | 260 .                |                      |                     | 0             |
| 80           | 7                   | Rectifier | 4.8       |            |                           |                      |                      | 26 Per              |               |
|              |                     |           |           |            |                           |                      |                      | Plate               |               |

(1) Varies with frequency approximately as shown.

(2) Voltage as read with 60,000 ohm meter—across 90 ohm section of R-11—50 volts.

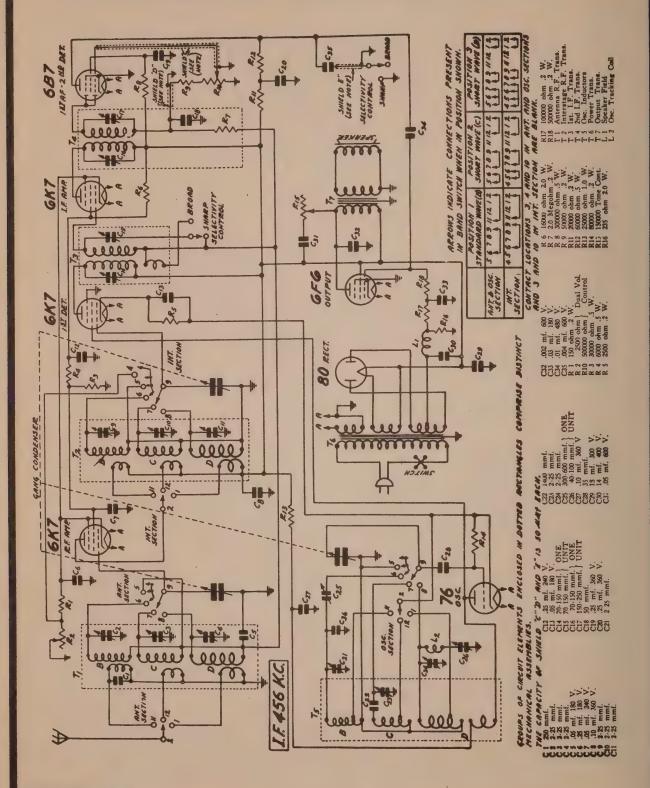
(3) Voltage as read with 600,000 ohm meter.

(4)Not actual voltage due to resistance in circuit—tone voltage—17 volts.
(5)Voltage as read with 60,000 ohm meter—across 4000 ohm section of R-11—12 volts.

(\*) Voltage as read with 60,000 ohm meter—across 4000 ohm section of R-11—12 volts.

(\*) Voltage as read with 60,000 ohm meter—across 300 and 90 ohm section of R-11—22 volts.

Montgomery Ward Models 62-185, 62-187, 62-190, 62-196



108

Montgomery Ward Radio Model 62-233

#### DESCRIPTION

#### Tubes

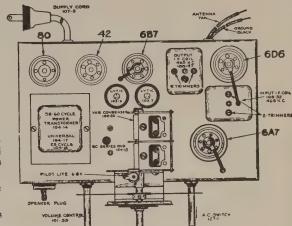
The Tube complement of this chassis is as follows:

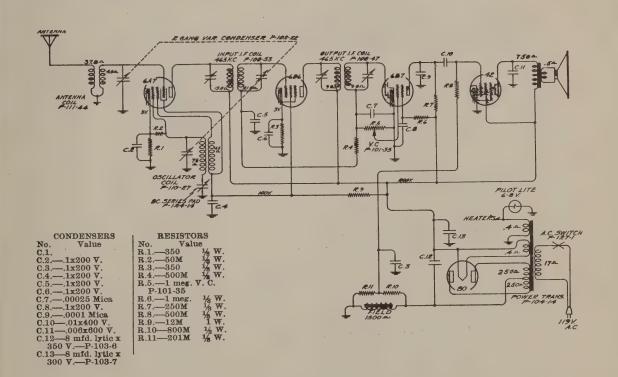
- 1 Type 6A7-pentagrid electron coupled oscillator and first detector.
- 1 Type 6D6-remote cut-off pentode as I.F. amplifier.
- 1 Type 6B7—duplex diode pentode as diode detector, A.V.C. and A.F.
- Type 42-pentode output tube.
- 1 Type 80-high vacuum rectifier.

Voltages taken from different points of circuit to chassis are measured with volume control full on, all tubes in their sockets and speaker connected, with a volt meter having a resistance of 1000 ohms per volt. These voltages are clearly indicated on the circuit diagram

All voltages are measured with 119 volts on the primary of the power transformer.

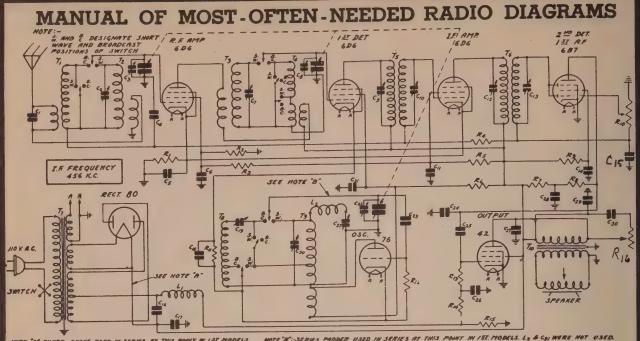
Resistance of coils and transformer windings are indicated in ohms on schematic circuit diagram.



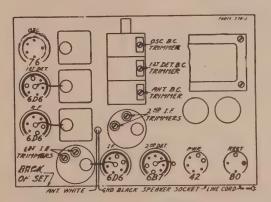


#### Service Notes

To check for open by-pass condensers, shunt each condenser with another of similar capacity and of the same voltage rating, which is known to be good, until the defective unit is located. Open by-pass condensers frequently cause oscillation and distorted tone. Defective and shorted electrolytic filter condensers cause excessive hum, motor-boating, low volume and a reduction in all D.C. voltages. Open or shorted electrolytic and by-pass condensers (across bias resistor of type 42 tube) will cause low volume and distorted tone.



Montgomery Ward Models 62-123, 62-131, 62-133, 62-142, 62-144, 62-152,



# Voltages at Sockets LINE VOLTAGE — 115 ANTENNA SHORTED TO GROUND

| Type<br>of<br>Tube | Function  | Across<br>Fila.<br>or<br>Heater | Plate<br>to<br>Cath. | Screen<br>to<br>Cath. | Control Grid to Cath. | Normal<br>Plate<br>M. A. |
|--------------------|-----------|---------------------------------|----------------------|-----------------------|-----------------------|--------------------------|
| 6D6                | R. F.     | 6.3                             | 246                  | 100                   | 3.6(1)                | 5.3                      |
| 6D6                | 1st Det.  | 6.6                             | 237                  | 97                    | 8.0(2)                | 3.4                      |
| 76                 | Osc.      | 6.3                             | 115                  |                       | 0                     | 4.8                      |
| 6D6                | I. F.     | 6.3                             | 246                  | 130                   | 3.6(1)                | 8.3                      |
| 6B7                | 2nd Det.  | 6.3                             | 50(3)                | 40(3)                 | 0                     | 2.7                      |
| 42                 | Power     | 6.3                             | 230                  | 245                   | 17.0(4)               | 33.0                     |
| 80                 | Rectifier | 5.0                             |                      |                       |                       | 37.0<br>per plate        |

- (1) Cathode to ground
- (2) Subject to variation(3) Read with 1,000,000 ohm meter
  - 4) As read across R15

| ES AT THIS | PONT M                                 | 22: 110 | DELS. Lz | & CAI WERE NOT USED.                 |
|------------|----------------------------------------|---------|----------|--------------------------------------|
| Code       | Capacit                                | ty      | Volts    | Туре                                 |
| C1         | .00025 m                               | ifd.    |          | Moulded                              |
| C2         | 3-40 mm                                | ıfd.    |          | Ant. S. W. Trimmer                   |
| C3         | (See 3 C                               |         | Cond.)   | Gang Trimmer                         |
| C4         | .05 m                                  | ıfd.    | 200V.    | Tubular                              |
| C5         | .25 n                                  | nfd.    | 200V.    | Tubular                              |
| C6         | .05 m                                  | ıfd.    | 400V.    | Tubular                              |
| C7         | 3-40 mm                                | ıfd.    |          | 1st Det. S. W. Trim                  |
| C8         | (See 3 C                               | ang     | Cond.)   | Gang Trimmer                         |
|            | 90±30 mm<br>90±30 mm                   |         |          | Dual Trimmer<br>Part of I. F. Assem. |
| C11        | .25 m                                  | ifd.    | 300V.    | Tubular                              |
|            | 90 <u>±</u> 30 mm<br>90 <u>±</u> 30 mm |         |          | Dual Trimmer<br>Part of I. F. Assem. |
| C14        |                                        | ıfd.    | 400V.    | Tubular                              |
| C15        |                                        | ıfd.    |          | Moulded                              |
| C16        | 18.0 - n                               | nfd.    | 300V.    | Electrolytic Wet                     |
| C16        | 8.0 n                                  | nfd.    | 450V.    | Electrolytic Wet                     |
| C-17       |                                        | nfd.    | 500V.    | Electrolytic Wet                     |
| C17        |                                        | nfd.    | 400V.    | Electrolytic Wet                     |
| C18        | 100                                    | nfd.    | 200V.    | Tubular                              |
| C19        |                                        | mmfd.   |          | 600 K. C. Trimmer                    |
| C20        |                                        | mmfd.   |          | Osc. S. W. Trimmer                   |
| C21        | _                                      | mmfd    |          | 6000 K. C. Trimmer                   |
| C22        |                                        |         | Cond.)   | Gang Trimmer                         |
| C23        | .000035                                |         | *****    | Moulded                              |
| C24        |                                        | nfd.    | 600V.    |                                      |
| C25        |                                        | nfd.    | 400V.    |                                      |
| C26        |                                        | nfd.    | 400V.    |                                      |
| C27        |                                        | nfd.    | 600V.    |                                      |
| C28        |                                        | nfd.    | 400V.    |                                      |
| C29        |                                        | nfd.    | 400V.    |                                      |
| C30        |                                        | nfd.    | 400V.    |                                      |
| C31        |                                        | nfd.    | 400V.    |                                      |
| Code       |                                        |         |          | Type Flex, Wire Wound                |
| R1         | 200                                    | ohm     | .2       | Carbon                               |
| R2         | 30,000                                 | ohm     | .5       | Carbon                               |
| R3         | 6,000                                  | ohm     | .5       | Carbon                               |
| R4         | 2.0 me                                 |         |          | Armored                              |
| R5<br>  R6 |                                        | ohm     | 1.5 \    | wire wound                           |
| R7         |                                        | ohm     | .2       | Carbon                               |
| R8         |                                        | ohm     | .5       | Carbon                               |
| R9         |                                        | ohm     | .5       | Carbon                               |
| Ri         |                                        | ohm     |          | Vol. Control & Switch                |
| R1         |                                        | ohm     | .2       | Carbon                               |
| R          |                                        | ohm     | .2       | Carbon                               |
| RI         |                                        | ohm     | .2       | Carbon                               |
| R1         |                                        | ohm     | .2       | Carbon                               |
| R          |                                        | ohm     |          | Flex. Wire Wound                     |
| R          |                                        | ohm     |          | Tone Control                         |

110

# MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS WARDS AIRLINE RADIO

MODELS 62-425 and 62-265

The tube complement of this chassis is as follows:

Type 6A7-pentagrid oscillator and first detector.

Type 78 —remote cut-off pentode as I.F. amplifier. Type 75 —duplex diode triode as diode detector, A.V.C. and A.F.

Type 41—pentode output tube.
Type 5Z4 or 5Y3—high vacuum rectifier.

#### **ALIGNING INSTRUCTIONS:**

CAUTION:-No aligning adjustments should be attempted without first thoroughly checking over all other possible causes of trouble, such as poor installations, open or grounded antenna systems, low line voltages, defective tubes, condensers and resistors. In order to properly align this chassis, an oscillator (generator) is absolutely necessary. No aligning adjustments should be attempted with the chassis in the cabinet. Remove the knobs and the two bolts which are used to fasten the chassis.

All adjustments should be made with a non-metallic screw driver.

#### RESONANCE INDICATOR:

Schematic

Part No. Reference BE 100-11 C-5:C-7

Use as a resonance indicator an output meter connected across the primary of the speaker input transformer, or by

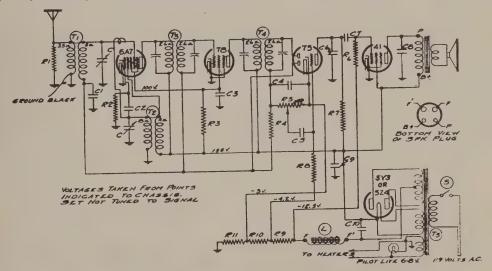
means of an adapter between the plate and screen terminals of the type 41 output tube. Use only enough signal to get a readily readable output. A low range output meter or the low scale of a multi-range voltmeter should be used.

#### ALIGNING I. F. TRANSFORMERS: (465 K. C.)

Connect external oscillator which has been adjusted to 465 kilocycles in series with 1 mfd. condenser, to the control grid cap of the type 6A7 tube. Ground the chassis to the oscillator. Adjust output I.F. transformer (Nq. 108-83) and input I.F. transformer (No. 108-82) to resonance. See label on bottom of cabinet for location of these transformers.

#### R. F. ALIGNMENT: (535-1720 K. C.)

- 1. With gang condenser in its minimum capacity position, plates entirely out of mesh, connect an external oscillator in series with a 200 mmf. condenser to tan antenna and black ground leads and make the following adjustments:
  - (a) With external oscillator set at 1720 kilocycles, adjust oscillator trimmer (rear of gang condenser).
  - (b) Re-set external oscillator to 1400 kilocycles, rotate condenser, pick up oscillator signal and adjust antenna trimmer to resonance (front section of gang condenser).
  - (c) Check sensitivity at 600 and 1000 kilocycles.



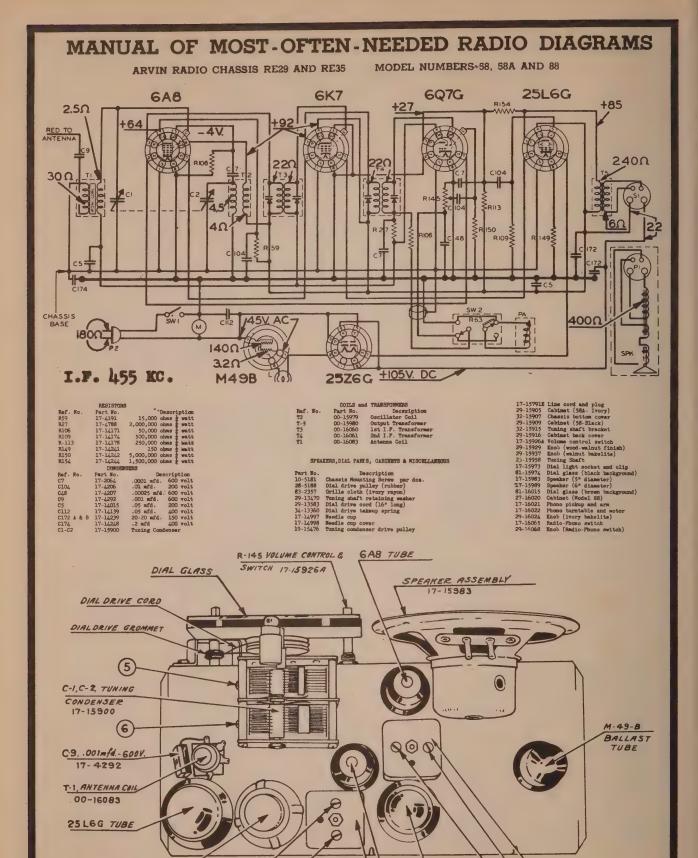
| BE 100-19<br>BE 100-1<br>BE 100-22<br>BE 119-24<br>BE 129-5<br>BE 129-12        | C-8<br>C-3<br>C-1<br>C-9:C-10<br>C-6<br>C-2:C-4 |                                                                                                                                                                                                                                                                                                                                                                        | 1 1 1 2 |
|---------------------------------------------------------------------------------|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| BE 130-17<br>RE 130-109<br>BE 130-117<br>BE 130-118<br>BE 130-121<br>BE 130-121 | R-3<br>R-2                                      | RESISTORS (R9, 200 ohm): (R10, 33 ohm): (R11, 100 ohm) Metal clad resistor 10M Ohm-1/3 Watt-20%-20 V.Carbon 7500 Ohm-1/3 Watt-20%-10 V. Carbon 600M Ohm-1/10 Watt-20%-100 V.Carbon 7500 Ohm-1/3 Watt-20%-100 V.Carbon 7500 Ohm-1/3 Watt-30%-00 V.Carbon 7500 Ohm-1/3 Watt-30%-00 V.Carbon 7500 Ohm-1/3 Watt-30%-20%-50 V.Carbon 7500 Ohm-1/10 Watt-30%-20%-50 V.Carbon | 1 1 2   |
| BE 108-82<br>BE-108-83<br>BE 110-46<br>BE 111-58                                | T3<br>T4<br>T2<br>T1                            | Input I.F. Coil Assem. Comp. with Can. Output I.F. Coil Assem. Comp. with Can. Oscillator Coil Assembly Complete Antenna Coil Assembly Complete                                                                                                                                                                                                                        | 1       |
| BE 121-6<br>BE 121-6<br>BE 121-6<br>BE 121-7<br>BE-121-9<br>BE 121-16           |                                                 | SOCKETS Six Prong Socket—Marked "41" Six Prong Socket—Marked "75" Six Prong Socket—Marked "78" Seven Prong Socket—Marked "647" Four Prong Socket—Marked "5PKR" Five Prong Socket—Marked "5Z4"(Octal)                                                                                                                                                                   | 1111111 |
|                                                                                 |                                                 |                                                                                                                                                                                                                                                                                                                                                                        |         |

CONDENSERS

Description x 400 Volt Tubular

| 3 |                    | MISCELLANEOUS                           |
|---|--------------------|-----------------------------------------|
| ı | Schematic          | No. Used                                |
| ľ | Part No. Reference | Description In Set                      |
| ľ | BE 101-54 R-5      | Volume Control and Switch (1 meg ohm) 1 |
| Ľ | BE 102-33 C        | Two Gang Variable Condenser             |
| ı | BE 107-39          | Line Cord & Plug                        |
| ı | BE 128-8           | Ivory Bakelite Knob (Model 62-265) 2    |
| ł | BE 131-2           | Brown Bakelite Knob                     |
| ı | BE 131-8           | Spring for above knob 2                 |
| ı |                    | DIAL PARTS LIST                         |
| • | BE 107-28          | Pilot Light Socket                      |
| • | BE 112-15          | Dial Crystal only-less escutcheon 1     |
| ı | BE 112-160         | Dial Pointer Complete with screw        |
| ı | BE 112-164         | Brown Bakelite Escutcheon               |
|   |                    | complete with crystal I                 |
| i | BE 112-226         | Ivory Bakelite Escutcheon               |
|   |                    | complete with glass (Model 62-265)      |
|   | BE 112-167A        | Dial Scale                              |
|   | BE 116-13          | 6-8 Volt, T-51 Pilot Light Bulb         |
| ı | BE 117-59          | Pointer Bushing Stud 1                  |
| ı | BE 117-60          | Pointer Bushing Assembly 1              |
|   | BE 117-61          | Drive Pulley 1                          |
|   | BE 117-68          | Dial Bracket 1                          |
| ľ | BE 120-7A          | Take-up Spring 1                        |
| ŀ | BE 131-52          | Drive Relt 1                            |
| ł | BE 134-9           | House Shoe Washer                       |
|   |                    |                                         |

No. Used In Set



T-4, 2 1.F. TRANS.

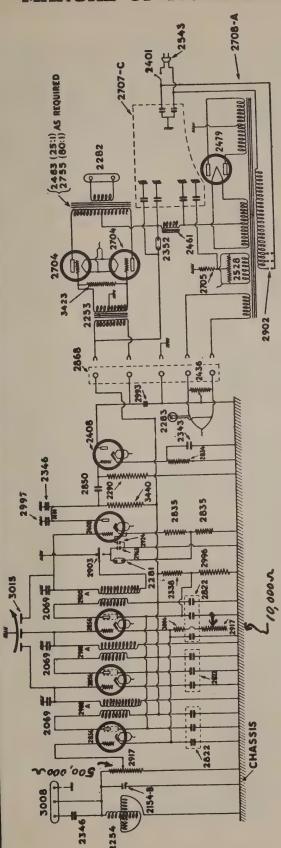
6076 TUBE

2526G TUBE

GK7 TUBE COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

(1)

T-3, 157 I.F. TRANS.



National Carbon Co. Models 50, 52, 53, 54

# FIXED RESISTORS

detector plate by-pass.

Screen grid, plate

.....three 0.5 in one can...

2822...

2924...

2850...

2343. 2963.

Antenna series and

Function

The fixed condensers used in Series 50 Receivers are listed below:

FIXED CONDENSERS

Capacity, mfd.

Part Number

2346...

and cathode by-pass. Detector bias resistor

by-pass.

| nce         | goh           | ohn       | ohr           | ohr              | ohr      | ohr       | ohr      |
|-------------|---------------|-----------|---------------|------------------|----------|-----------|----------|
| Resistance  | 2 megoh       | 4000 ohn  | .125000 ohr   | 200 ohr          | 3000 ohr | 2500 ohr  | 2250 ohr |
|             |               |           |               |                  | •        |           |          |
|             |               |           |               |                  | ۰        |           |          |
|             |               |           | •             |                  | •        | •         |          |
|             | •             |           |               |                  | . •      | •         | •        |
|             | •             |           | •             | •                | •        | •         |          |
|             | •             | •         |               |                  |          |           |          |
|             |               | •         |               |                  |          |           |          |
|             | - 1           | :         | - :           | •                |          |           |          |
|             | 2290          |           |               |                  |          |           |          |
| -           |               |           |               |                  |          |           |          |
| $\approx$   |               | •         |               |                  |          |           |          |
| 7           | •             |           |               |                  | :        |           |          |
|             | $\overline{}$ | 2835.     | 3440.         | 3004.            | 2834     | 2338.     | 2996.    |
| 7           | $\approx$     | ~~        | $\Rightarrow$ | 8                | 8        | $\approx$ | 0        |
| 7           | $\sim$        | õõ        | 744           | 3                | 00       | 8         | 0        |
| (Kent       | č.            | $\approx$ | m             | $\tilde{\alpha}$ | Ñ        | N         | C        |
| سيد         | ~ ~           |           |               |                  |          |           |          |
| 느           |               |           |               |                  |          |           |          |
| Part Number |               |           |               |                  |          |           |          |
| J. Line     |               |           |               |                  |          |           |          |
|             |               |           |               |                  |          |           |          |
|             |               |           |               |                  |          |           |          |
|             |               |           |               |                  |          |           |          |

AF bias resistor by-pass.

Phonograph pick-up

.... RF filter condenser.

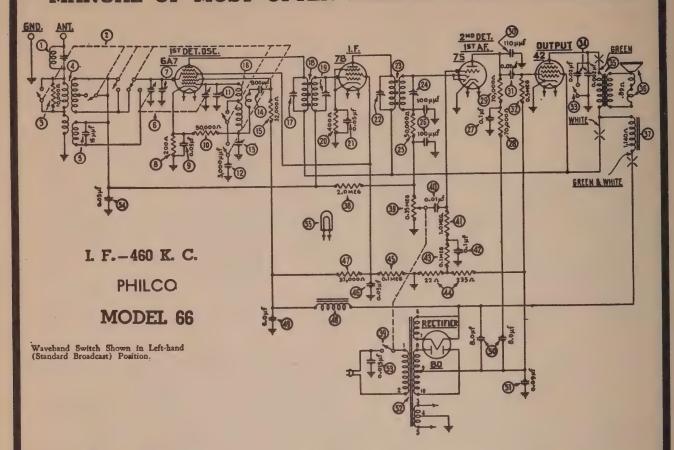
Audio by-pass.

by-pass.

VOLUME CONTROL: 500,000 A

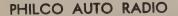
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2993. 2997.

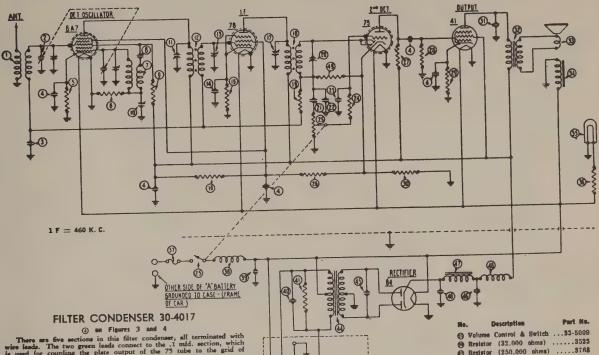


| No. t                                  | m Bernsteiler                                  | Don't No.   |
|----------------------------------------|------------------------------------------------|-------------|
| Figs                                   | •                                              | Part No.    |
| 1                                      | Wave Trap                                      |             |
| (3)                                    | Wave-band Switch                               |             |
| (3)                                    | Resistor (10,000 ohms) (Brown-Black-Orange)    |             |
| <b>(</b>                               | Antenna Transformer                            |             |
| <b>(5)</b>                             | Condenser (.000015 Mfd.)                       |             |
| <b>©</b>                               | Tuning Condenser Assembly                      |             |
| 7                                      | Compensating Condenser (ANT)                   |             |
| 8                                      | Resistor (200 ohms Flexible) (Red-Black-Brown) |             |
| <b>②</b>                               | Condenser (.05 Mfd. Tubular)                   |             |
| 10                                     | Resistor (50,000 ohms) (Green-Green-Orange)    |             |
| 11                                     | Compensating Condenser (OSC. HF)               | Part of (6) |
| (12)                                   | Condenser (.003 Mfd. Mica)                     | 30-1028     |
| 13                                     | Compensating Condenser (Osc. I. F.)            | 04000-S     |
| 14                                     | Condenser (.0008 Mfd. Mica)                    | 5378        |
| 16                                     | Resistor (32,000 ohms) (Orange-Red-Orange)     | 5279        |
| 16                                     | Oscillator Transformer                         | 32-1413     |
| 17                                     | Compensating Condenser (1st I. F. Pri.)        | 04000M      |
| (18)                                   | 1st I. F. Transformer                          | 32-1414     |
| 19                                     | Compensating Condenser (1st I. F. Secondary)   | 04000M      |
| 20                                     | Resistor (400 ohms Flexible)                   | 33-3016     |
| 21                                     | Condenser (.05 Mfd. Tubular)                   |             |
| 22                                     | Compensating Condenser (2d 1. F. Primary)      | 04000M      |
| (23)                                   | 2d I. F Transformer                            | 32-1415     |
| 20                                     | Compensating Condenser (2d 1. F. Secondary)    | 04000J      |
| (26)                                   | Resistor (50,000 ohms) (Green-Brown-Orange)    | 6098        |
| (26)                                   | Condenser (.0001 Mfd. Twin Bakelite Block)     | 8035-B      |
| (a)                                    | Condenser (.1 Mfd. Tubular)                    | 30-4170     |
| <b>(28)</b>                            | Resistor (70,000 ohms) (Violet-Black-Orange)   | . 33-1115   |
| (29)                                   | Resistor (70 000 ohms) (Violet-Black-Orange)   | . 33-1115   |
| 00000000000000000000000000000000000000 | Condenser (.00011 Mfd. Mica)                   |             |
| (31)                                   | Condenser (.02 Mfd. Tubular)                   | . 30-4113   |
| (32)                                   | Resistor (500,000 ohms) (Yellow-White-Yellow)  | . 6097      |
| (33)                                   | Tone Control.                                  |             |
| Č.                                     | Condensers in Tone Control                     |             |

| No. nn<br>Fige.   | Description                                   | Part No.  |
|-------------------|-----------------------------------------------|-----------|
| <b>886889303</b>  | Output Transformer                            | 32-7019   |
| <b>86</b>         | Voice Coil & Cone Assembly (8-12)             | 36-3014   |
| <b>(37)</b>       | Field Coil and Pot. Assembly (8-12)           | 36-3341   |
| 88                | Resistor (2 Megohms) (Red-Black-Green)        | 33-1025   |
| 39                | Volume Control and On-Off Switch              | 33-5006   |
| (4)               | Condenser (.01 Mfd.) (Bakelite Block)         | 3903-AB   |
| <b>(1)</b>        | Resistor (1 Megohm) (Brown-Black-Green)       | 33-1096   |
| <b>(2)</b>        | Condenser (.1 Mfd.)                           | 30-4122   |
| <b>(3</b> )       | Resistor (.1 Meg.) (White-White-Orange)       | 6099      |
| 4                 | Resistor (B. C. Wire-wound) (22, 235 ohms)    | 33-3037   |
| <b>6</b>          | Resistor (.1 Meg.) (White-White-Orange)       | 6099      |
| <b>6</b>          | Condenser (.05 Mfd. Tubular)                  | . 30-4123 |
| <b>@</b>          | Resistor (37,000 ohms) (Orange-Violet-Orange) | . 33-1098 |
| <b>(8)</b>        | Filter Choke                                  | . 32-7018 |
| <b>(4)</b>        | Condenser (Electrolytic-6 Mfd.)               | . 30-2021 |
| <b>3888888888</b> | Condenser (Electrolytic-8-8 Mfd.)             | . 30-2028 |
| <b>(51)</b>       | Condenser (.09 Mfd. Bakelite Block)           | . 4989-D  |
| (82)              | Power Transformer                             | . 8046    |
| (53)              | Condenser (.015 Mfd. Bakelite Block)          | . 3793-W  |
| <b>&amp;</b>      | Condenser (.05 Mfd. Tubular)                  | . 30-4020 |
| <b>(55)</b>       | Dial Light                                    |           |
|                   | Four Prong Socket                             |           |
|                   | Six Prong Socket                              |           |
|                   | Seven Prong Socket                            |           |
|                   | Tube Shield                                   | . 28-1107 |
|                   | Chassis Mounting Screw                        | . W-567   |
|                   | Chassis Mounting Washer (Metal)               | . W-315   |
|                   | Chassis Mounting Washer (Rubber) Knob (Large) | . 5189    |
|                   | Knob (Small)                                  | 27-4052   |
|                   | Dial Assembly                                 | 31-1234   |
|                   | Dial Scale                                    | . 27-5057 |
|                   | A. C. Cord and Plug Asse ably                 | . L-943A  |



#### MODEL 5



There are five sections in this filter condenser, all terminated with a leads. The two green leads connect to the .1 mid. section, which used for coupling the plate output of the 75 tube to the grid of 41 tube.

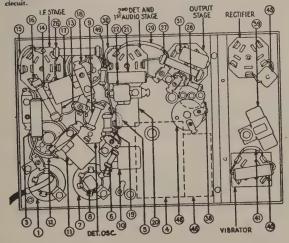
The remaining four sections are all grounded to the can on one de. The white leads connect to two .25 mfd. sections. The first ction is connected to the cathode of the 6A7 tube. The second ction is connected to the screen of the 78 tube.

The red lead from the .5 mfd. section is connected to the B+ side all the plate circuits. A 20 mfd. section terminates in a black d, which in turn is connected to the cathode of the 41 tube.

#### FILTER CONDENSER 30-2008

The condenser consists of two sections, a 4 mfd. section and an 8 mfd. section, both of them grounded on one side.

The 4 mfd. section terminates in a red lead, which is connected to the action of the 84 tubs. The 8 mfd. section terminates in a green lead, which is connected between the two chokes in the rectifer filter distributions.



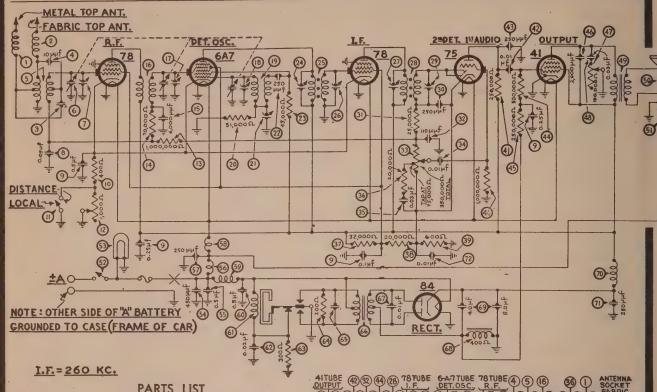
#### PARTS LIST

FIGURE 3

| 174410                      |          |
|-----------------------------|----------|
| No. Description             | Part No. |
| ① Antenna Transformer       | 32-1084  |
| ② Tuning Condenser          | 31-1019  |
| (a) Condenser (.05) mfd.)   | 30-4020  |
| (1) Filter Condenser        |          |
| (.25, .25, .5, 20 mfd.)     | 30-4017  |
| (6) Resistor (200 ohms)     | 7217     |
| @ Resistor (13,000 ohms)    | 8267     |
| 1 Oscillator Transformer    | 32-1085  |
| (1) Condenser (250 mmfd.)   | 3082     |
| (3) Resistor (15,000 ohms)  | 6208     |
| @ Padder                    | 040008   |
| n Padder                    | 04000J   |
| @ First I. F. Transformer   | 32-1086  |
| 6 Padder                    | 04000Y   |
| @ Condenser (.5 mfd.)       | 30-4018  |
| @ Resistor (1000 ohms)      | 33-3017  |
| ⊗ Resistor (10,000 ohma)    | 4418     |
| n Padder                    | 04000D   |
| @ Second I. F. Transformer  | 32-1087  |
| @ Resistor (1,000,000 shms) | 4409     |
| Padder                      | 04000M   |
| (1) Condenser (.05 m/d.)    | 30-4020  |
| @ Condenser (250 mmfd.)     | 3082     |
| @ Condenser (500 mmfd.)     | 3910     |
| @ Resistor (100,000 ohms)   | 6099     |
|                             |          |

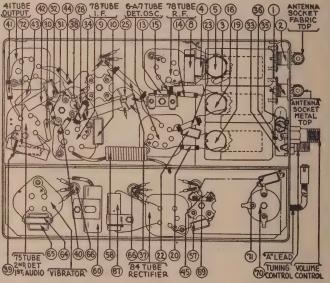
| @ Resistor (250,000 onms)            |
|--------------------------------------|
| Resistor (500,000 olims)6007         |
| @ Resistor (700 ohms)6443            |
| Resistor (400 ohms)33-3016           |
| 60 Condenset (6,000 mmfd.)30-1002    |
| 1 Output Transformer32-7005          |
| Cone & Voice Coll02861               |
| 60 Field Coil Assembly36-3046        |
| @ Pilot Lamp6608                     |
| @ Resistor (7 ohms)5110              |
| 6 Fuse (15 amp.)7227                 |
| 9 R. F. Choke32-1083                 |
| @ Condenser (.5 mfd.)30-4015         |
| @ Condenser (.05 mfd.)30-4020        |
| @ Resistor (200 ohms)7217            |
| @ Vibrator41-3186                    |
| @ Resister (200 ohms)7217            |
| @ Transformer32-7030                 |
| Condenser (6000 mmfd.)30-1002        |
| @ Condenser (4 mfd., 8 mfd.) 30-2008 |
| @ Filter Choke32-7026                |
| R. F. Choke (high voltage) 32-1078   |
| Resistor (250,000 ohms)4410          |
| Control Assembly                     |
| (direct drive)                       |
| Tuning Shaft28-8006                  |
| Volume Shaft28-8007                  |
| Dial27-5006                          |
| Knob                                 |
| Fuse7227                             |
| Fuse Insulator27-7131                |
| Antenna Lead                         |
| "A" Lead                             |
| Bracket (control mtg.)6035           |
| Studs (set mtg.)28-6036              |
| Nuts (set mtg.)W55A                  |
| Strap (control mtg.)04344            |
|                                      |

MODEL TII PHILCO AUTO RADIO



|            |                                                                                                                                                                                                              | PARI      |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| No.        | Description                                                                                                                                                                                                  | Part No.  |
| (1)        | Antenna Choke                                                                                                                                                                                                | 38-7210   |
| (2)        | Antonno Choko .                                                                                                                                                                                              | 39-7910   |
| (3)        | Condenser (70 mmfd.)                                                                                                                                                                                         | 30-1068   |
| 4          | Condenser (10 mmfd.)                                                                                                                                                                                         | 30-1065   |
| (5)        | Antenna Transformer                                                                                                                                                                                          | 32-1925   |
| (B)        | Condenser (70 mmfd.) Condenser (10 mmfd.) Antenna Transformer Tuning Condenser                                                                                                                               | 31-1674   |
| 7          | First Padder (on Tun. Cond                                                                                                                                                                                   | 1.)       |
| (8)        | Condenser (.05 mfd.)                                                                                                                                                                                         | 30-4444   |
| <b>(9)</b> | Condenser                                                                                                                                                                                                    |           |
|            | (.125255 mfd.) .<br>Resistor (400 ohms)<br>Sensitivity Control Switch                                                                                                                                        | 30-4374   |
| 100        | Resistor (400 ohms)                                                                                                                                                                                          | 33-1211   |
| 11)        | Sensitivity Control Switch                                                                                                                                                                                   | 42-1140   |
| 12         | Sensitivity Control Switch Resistor (1,000,000 ohms) Resistor (70,000 ohms)                                                                                                                                  | 33-5129   |
| (3)        | Resistor (1,000,000 ohms)                                                                                                                                                                                    | 33-510344 |
| 14         | Resistor (70,000 onms)                                                                                                                                                                                       | 33-370334 |
| (5)        | Condenser (6,000 mmfd.)<br>R. F. Transformer                                                                                                                                                                 | 30-4440   |
| (1)        | Second Padder (on Tun. Con                                                                                                                                                                                   | 04-1940   |
| (18)       | Third Padder (on Tun. Con                                                                                                                                                                                    |           |
| (19)       | Oscillator Transformer                                                                                                                                                                                       | 39-1027   |
| 20         | Resistor (51,000 ohms)                                                                                                                                                                                       | 33-351344 |
| (a)        | Low Frequency Padder                                                                                                                                                                                         | 31-6056   |
| 2          | Condenser (250 mmfd.)                                                                                                                                                                                        | 30-1032   |
| 23         | Low Frequency Padder Condenser (250 mmfd.) Resistor (45,000 ohms)                                                                                                                                            | 33-345344 |
| (2)        | l'adder (Pri. 1st 1. F. Trans                                                                                                                                                                                | 3.)       |
| 23         | First I. F. Transformer .                                                                                                                                                                                    | 32-1260   |
| 20         | Padder (Sec. 1st I. F. Tran                                                                                                                                                                                  | s.)       |
| 2          | Padder (Pri., 2nd I. F. Tra<br>Second I. F. Transformer .                                                                                                                                                    | ns.)      |
| 28         | Second I. F. Transformer .                                                                                                                                                                                   | 32-2164   |
| 9          | Padder (Sec 2nd I. F. Trans                                                                                                                                                                                  | S.)       |
| 9          | Condenser (250 mmfd.) Resistor (25,000 ohms) Condenser (110 mmfd.)                                                                                                                                           | 30-1032   |
| <u> </u>   | Resistor (25,000 onms)                                                                                                                                                                                       | 33-325344 |
| 63         | Volume Control                                                                                                                                                                                               | 30-1031   |
| 63         | (350 000 abres)                                                                                                                                                                                              | 99 5101   |
| 0          | (350,000 ohms)<br>Condenser (.01 mfd.)                                                                                                                                                                       | 20-4124   |
| 68         | Condenser ( 03 mfd )                                                                                                                                                                                         | 30-4124   |
| 8          | Condenser (.03 mfd.)<br>Resistor (20,000 ohms)                                                                                                                                                               | 33-320334 |
| (3)        | Resistor (32,000 ohms)                                                                                                                                                                                       | 33-332434 |
| (83)       | Resistor (20,000 ohms)                                                                                                                                                                                       | 33-320334 |
| (39)       | Resistor (600 ohms)                                                                                                                                                                                          | 33-1212   |
| 1          | Resistor (20,000 onms) Resistor (32,000 ohms) Resistor (20,000 ohms) Resistor (600 ohms) Resistor (1,000,000 ohms) Resistor (250,000 ohms) Condenser (01 mfd.) Condenser (250 mmfd.) Resistor (500,000 ohms) | 33-510344 |
| 0          | Resistor (250,000 ohms)                                                                                                                                                                                      | 33-424344 |
| 1          | Condenser (.01 mfd.)                                                                                                                                                                                         | .30-4145  |
| (3)        | Condenser (250 mmfd.)                                                                                                                                                                                        | .30-1032  |
| 63         | Resistor (500,000 ohms)                                                                                                                                                                                      | 33-449344 |
| (5)        | Resistor (500,000 ohms) Resistor (250,000 ohms) Condenser (2,000 mmfd.)                                                                                                                                      | 33-424344 |
| (40)       | Condenser (2,000 mmld.)                                                                                                                                                                                      | 30-4177   |
|            |                                                                                                                                                                                                              |           |

| L,     | 121                                                                                                                                                                                                                                                                                                                          |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No     | . Description                                                                                                                                                                                                                                                                                                                |
| (17)   | Tone Control Condenser (.03 mfd.) Output Transformer Cone & Voice Coil Field Coil Assembly On & Off Switch Pilot Lamp Condenser (450 mmfd.) Condenser (.5 mfd.) "A" Choke Condenser (250 mmfd.) Filament Choke Condenser (.5 mfd.) Vibrator Choke Condenser (.5 mfd.) Vibrator Choke Condenser (.5 mfd.) Resistor (300 ohms) |
| 63     | Resistor (300 ohms)                                                                                                                                                                                                                                                                                                          |
| 888888 | Resistor (200 ohms) Condenser (.05 mfd.) Power Transformer Condenser (.01 mfd.) Filter Choke Filter Choke Condenser (4-8 mfd.) R. F. Choke Condenser (250 mmfd.) Condenser (.01 mfd.)                                                                                                                                        |
| 71)    | R. F. Choke                                                                                                                                                                                                                                                                                                                  |
| 13     | Condenser (.01 mfd.)                                                                                                                                                                                                                                                                                                         |



CHANGES — "Run Numbers" are stamped on the chassis sub-base for identification. These "Run Numbers" are changed consecutively as major changes are made in the Receiver wiring and parts.

RUN No. 3 — A 250 mmid: condenser has been added to the Receiver. One side is connected between resistors \$\text{@}\$ and \$\text{@}\$ and the other side to ground.

RUN No. 4 — The 250 mmid. condenser added in Run No. 3 has been removed.

RUN No. 5 — The Antenna Transformer \$\text{@}\$ is replaced with a new type having the same part number. It can be identified by the red and blue paint marks on the fibre.

RUN No. 6 — Condenser \$\text{@}\$ has been removed from the cathode side of the "B" choke \$\text{@}\$ and connected to the plate side of choke \$\text{@}\$.

RUN No. 6 — Condenser \$\text{@}\$ has been removed added to the Receiver. One side is connected between resistors \$\text{@}\$ and \$\text{@}\$ and the other side to ground.

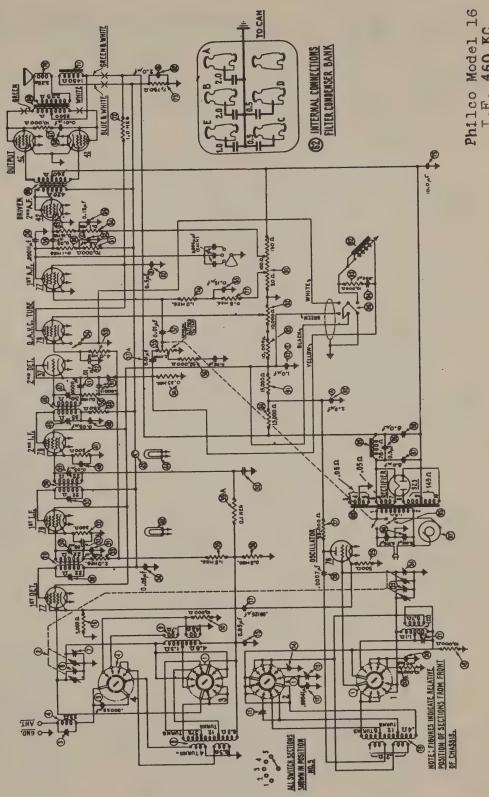
RUN No. 8 — Condenser \$\text{@}\$ removed (1250 mmid.). Part No. 30-4020 added. (.05 mid.)

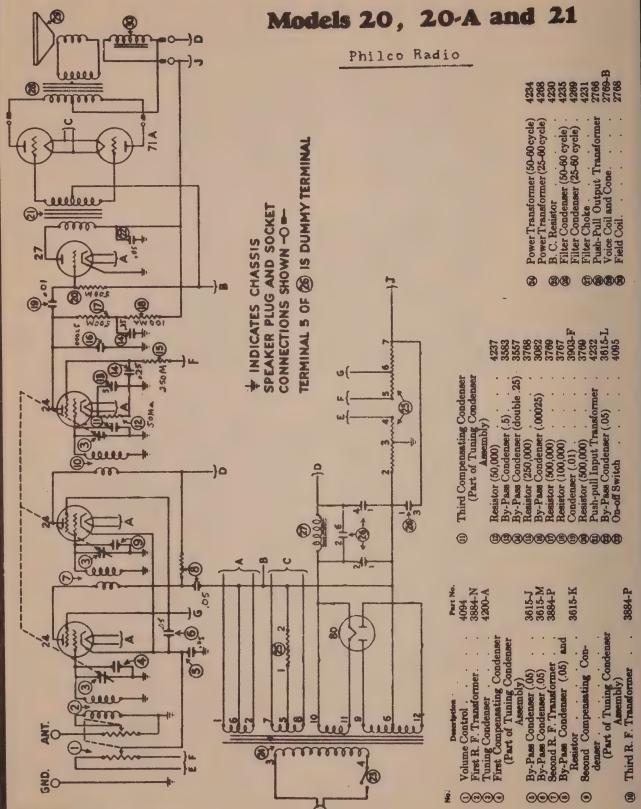
RUN No. 13 — The 250 mmid. condenser that was added in Run No. 6A has been removed.

RUN No. 14 — Resistor \$\text{@}\$ removed (400 ohms). Part No. 33-1225 added. (350 ohms.)

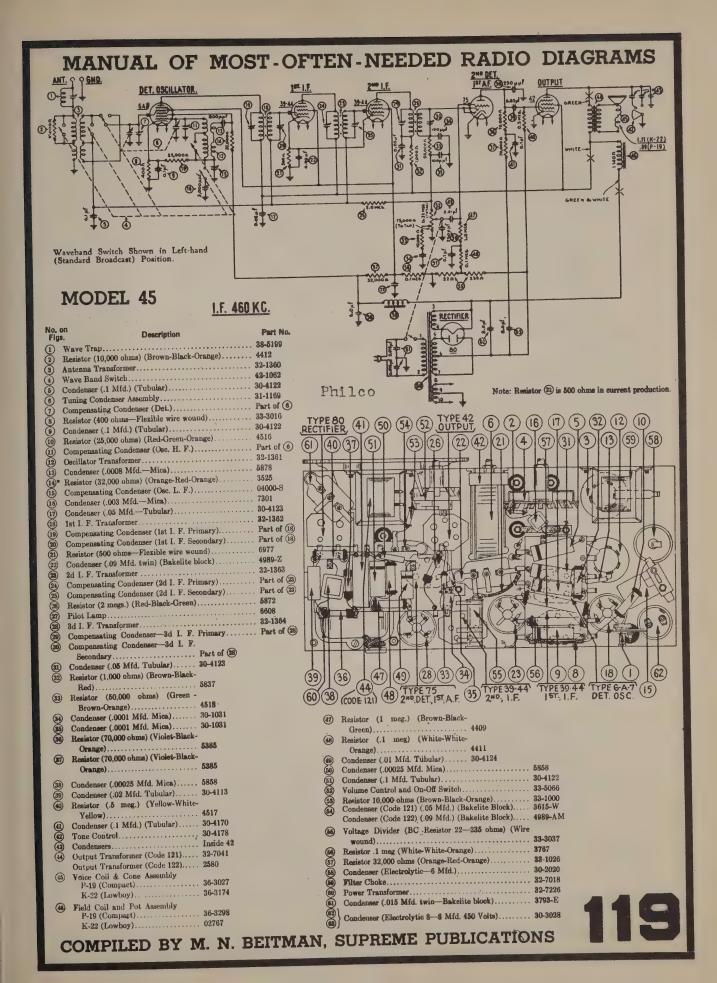
No major changes were involved in Run Nos. 2, 7, 9, 10, 11, 12.

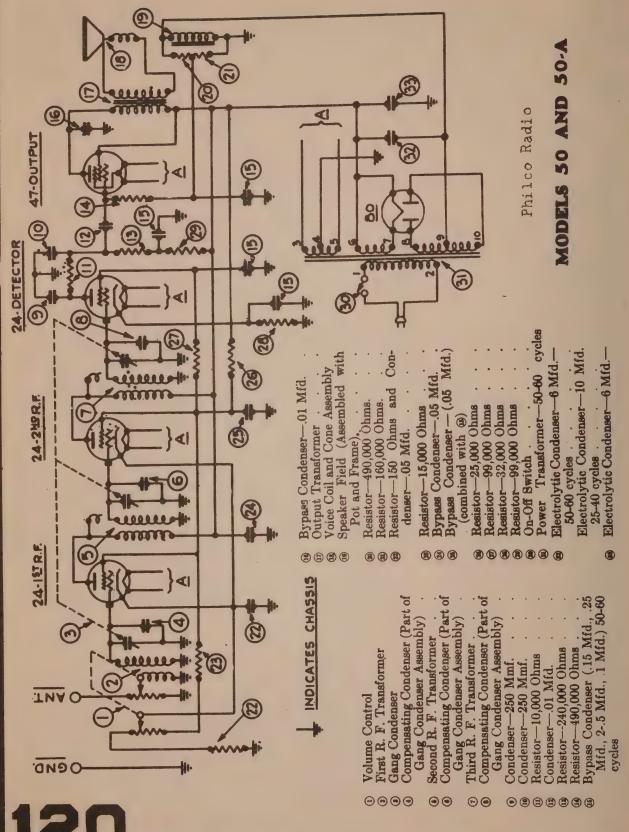


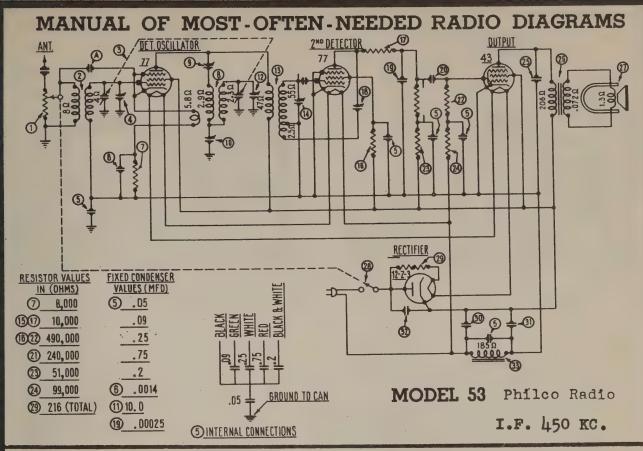


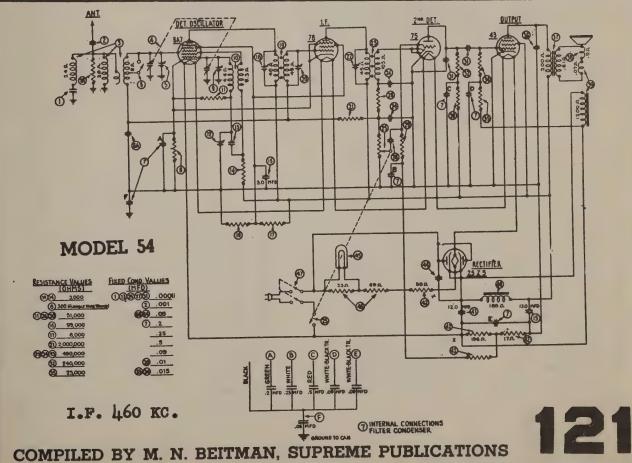


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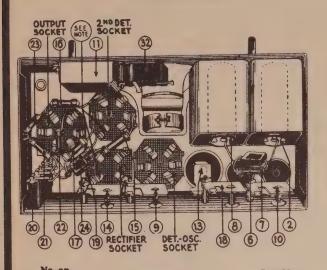


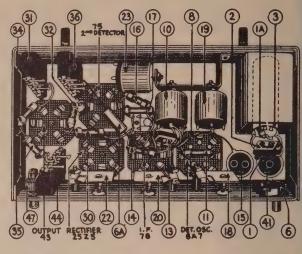




# MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS Model 53 Model 54

(A. C. - D. C.)

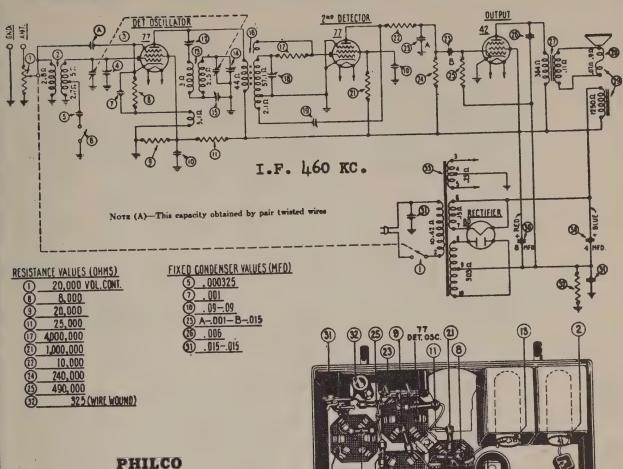




|             | lo. on<br>1. 2, 3 and 4 Description                                                                                           | Part No. |
|-------------|-------------------------------------------------------------------------------------------------------------------------------|----------|
| rigi        | Volume Control                                                                                                                | 33-5001  |
| $\otimes$   | Antonna Transformar                                                                                                           | 32-1000  |
| 0000        | Antenna Transformer Tuning Condenser Assembly Compensating Condenser (Part of Tuning                                          | 31-1000  |
| 8           | Companyating Condenser (Part of Tuning                                                                                        | 91-1000  |
| •           | Condenser Assembly)                                                                                                           |          |
| (8)         | Condenser Assembly) Filter Condenser Block (.05092575-                                                                        |          |
| •           | 2 Mfd.)                                                                                                                       | 30-4000  |
| (6)         | .2 Mfd.)<br>Condenser (.0014 Mfd.)<br>Resistor (8,000 ohms) Gray-Black-Red                                                    | 7007     |
| ä           | Resistor (8,000 ohms) Grav-Black-Red                                                                                          | 5838     |
| Ö           | Oscillator Transformer                                                                                                        |          |
| 8           | Oscillator Transformer                                                                                                        | 04000-A  |
| <u></u>     | Compensating Cond. (Low Frequency)                                                                                            | 04000-S  |
| (1)         | Condenser (10.0 Mfd.)                                                                                                         | 7440     |
| @@@@@@<br>B | Compensating Condenser (Part of Tuning                                                                                        | 1110     |
| 100         | Condenser Assembly)                                                                                                           |          |
| 1           | I.F. Transformer                                                                                                              | 32-1002  |
| 3           | I.F. Transformer                                                                                                              | 04000-A  |
|             | Resistor (10,000 ohms) Brown-Black-                                                                                           | 03000-A  |
| 9           | Orenge                                                                                                                        | 4412     |
| 1           | Orange<br>Resistor (490,000 ohms) Yellow-White-                                                                               | 2210     |
| 169         | Vellow                                                                                                                        | 4517     |
| (g)         | Yellow                                                                                                                        | 2011     |
| (e)         | Orange                                                                                                                        | 4412     |
| 600         | Orange Compensating Condenser (Regeneration) Condenser (.00025 Mfd.) Condenser (.01 Mfd.) Resistor (240,000 ohms) Red-Yellow- | 04000    |
| 9           | Condenser (00025 Mfd.)                                                                                                        | 2082     |
|             | Condense (.oooso Mara.)                                                                                                       | 0000 43/ |
| (3)         | Condenser (.01 Mfd.)                                                                                                          | 3903-AM  |
| (E)         | Yellow                                                                                                                        |          |
| 2           | Resistor (490,000 ohms) Yellow-White-                                                                                         | 4410     |
| 100         | W-W                                                                                                                           | 4517     |
| (30)        | Resistor (51,000 ohms) Green-Brown-                                                                                           | 4017     |
| 6           | Orongo                                                                                                                        | 4510     |
| 69          | Resistor (99,000 ohms) White-White-                                                                                           | 4010     |
| 0           |                                                                                                                               | 4411     |
| (3)         | Condenser (015 Mfd.)                                                                                                          | 3793-S   |
| 3388        | Output Transformer                                                                                                            | 32-7000  |
| Ø.          | Voice Coil and Cone Assembly                                                                                                  | 36-3000  |
| <b>8</b>    | Output Transformer Voice Coil and Cone Assembly A. C. Switch (Part of Volume Control                                          |          |
|             | Assembly)                                                                                                                     | 33-5001  |
| <b>(30)</b> | Resistors (2 Wire Wound-108 ohms each)                                                                                        | /33-3000 |
|             | ,                                                                                                                             | (33-3001 |
| <b>BBB</b>  | Electrolytic Condenser (8 Mfd.)                                                                                               | 30-2000  |
| (E)         | Electrolytic Condenser (8 Mfd.)                                                                                               | 30-2000  |
|             | Condenser (.05 Mfd.)                                                                                                          | 3615-E   |
| <b>A</b>    | Filter Choke                                                                                                                  | 32-7001  |
|             | Tube Shield                                                                                                                   | 02064    |
|             | Four Prong Socket                                                                                                             | 7544     |
|             | TOUR TOTAL DOCUMENT                                                                                                           | 7544     |

| No.           |                                                                 | Part No.        |
|---------------|-----------------------------------------------------------------|-----------------|
| Figi          |                                                                 |                 |
| (1)           | Condenser                                                       | 30-1005         |
| (1)a          | Resistor (Green-Black-Red)                                      | 6096            |
| 3             | Condenser                                                       | 5215            |
| 3             | Antenna Transformer Assembly                                    | 32-1117         |
| <b>(4)</b>    | Tuning Condenser Assembly                                       | 31-1027         |
| <b>(5)</b>    | Compensating Condenser (Part of (1))                            |                 |
| (1)           | Wave Band Switch                                                | 42-1027         |
| <b>6</b>      | Condenser                                                       | 30-4020         |
| 7             | Filter Condenser (Block)                                        | 30-4023         |
| 8             | Resistor (Flexible)                                             | 33-3010         |
| 2             | Compensating Condenser (High Frequency                          |                 |
|               | 1400) Part of ①                                                 |                 |
| (10)          | Oscillator Coil                                                 | 32-1118         |
| (II)          | Resistor (Green-Brown-Orange)                                   | 4518            |
| 12            | Compensating Condenser (Low Freq.)                              | 04000-B         |
| 13            | Condenser                                                       | 4519            |
| 933333        | Resistor (Green-Black-Red)                                      | 5310            |
| <b>(5)</b>    | Electrolytic Condenser (Double)                                 | 30-2002         |
| 20            | Resistor (White-White-Orange)                                   | 4411            |
| <u>(17)</u>   | Resistor (Gray-Black-Red)                                       | 5838            |
| 18            | Compensating Cond. (1st I. F. Primary)                          | 04000-A         |
| 19            | 1st I. F. Transformer. Compensating Condenser (1st I. F. Secon- | 32-1115         |
| 20            | Compensating Condenser (1st I. F. Secon-                        | 0.4000 4        |
|               | dary)                                                           | 04000-A         |
| (21)          | Resistor (Red-Black-Green)                                      | 5872            |
| 22            | Compensating Cond. (2nd I. F. Primary).                         | 04000-A         |
| <b>(28)</b>   | 2nd I. F. Transformer                                           | 32-1116         |
| 3 3 8 8 8 8 3 | Condenser (Double)                                              | 8035-G          |
| 23            | Volume Control and "On-Off" Switch                              | 33-5010         |
| 26)           | Resistor (Green-Brown-Orange)                                   | 4518            |
| 28)           | Condenser. Resistor (Yellow-White-Yellow)                       | 3903AM          |
| 29)           | Resistor (Yellow-White-Yellow)                                  | 6097            |
| (30)          | Resistor (Green-Brown-Orange)                                   | 4518            |
|               | Condenser (Double)                                              | 8035-F          |
| 32            | Resistor (Red-Yellow-Yellow)                                    | 4410            |
| 34)           | Resistor (Yellow-White-Yellow)                                  | 4517            |
| 35            | Resistor (Red-Green-Orange)                                     | 4516            |
| 36            | Condenser                                                       | 3793-Y          |
| Ī             | Output Transformer                                              | 32-7020         |
| 38            | Voice Coil and Cone Assembly                                    | 36-3029         |
| (39)          | Field Coil and Pot Assembly                                     | 36-3040         |
| (10)          | Filter Choke                                                    | 32-7036         |
| (1)           | Electrolytic Condenser                                          | 30-2001         |
| 3865883986    | Resistor (Wire Wound) Resistor (Yellow-White-Yellow)            | 33-3012         |
|               | Condenses                                                       | 6097            |
|               | Condenser                                                       | 3615-B          |
|               | Pilot Lamp.                                                     | 4567            |
|               | Resistor (Wire Wound)                                           | 33-3011         |
| •             | Safety Switch                                                   | 42-1026         |
|               | Tube Shield                                                     | 28-1130<br>7547 |
|               | Seven Prong Socket.                                             | 27-6005         |
|               | Seven Frong Socket                                              | 21-0000         |

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#### MODEL 57

| No.         | Description                             | Part No. |
|-------------|-----------------------------------------|----------|
| 1           | Volume Control and "On-Off" Switch      | 33-5011  |
| _           | Antenna Transformer                     | 32-1153  |
| 3           | Tuning Condenser Assembly               | 31-1035  |
| <b>①</b>    | Compensating Condenser (Antenna; Part   |          |
| •           | of (3)                                  |          |
| _           | Condenser                               | 30-1004  |
| (i)         | Wave Band Switch                        | 42-1027  |
| 0           | Condenser                               | 5215     |
| 0           | Resistor (Gray-Black-Red)               | 5838     |
| (1)         | Resistor (Red-Black-Orange)             | 6650     |
| •           | Resistor (Red-Diack-Olange)             | 4989-C   |
| 10          | Condenser (Double)                      | 3656     |
| Œ           | Resistor (Red-Green-Orange)             | 04000-A  |
| 12          | Compensating Condenser (I. F. Primary). | 32-1023  |
| 1           | Oscillator Coil                         | 02       |
| 14          | Compensating Cond. (High Frequency—     |          |
|             | 1400 kilocycles) (Part of ③)            | 04000-5  |
| 16          | Compensating Cond. (Low Frequency)      | 32-1155  |
| 1           | I. F. Transformer                       |          |
| <b>19</b> . | Resistor (Yellow-Black-Green)           | 0010     |

| No. 6       |                                       | Part No.  |
|-------------|---------------------------------------|-----------|
| (18)        | Compensating Cond. (I. F. Secondary). | 04000-D   |
| 19          | Compensating Condenser                | . , 04000 |
| <b>21</b>   | Resistor (Brown-Black-Green)          | 4409      |
| <b>22</b>   | Resistor (Brown-Black-Orange)         | 4412      |
| (B)         | Condenser (Double)                    | 7762-В    |
| 24)         | Resistor (Red-Yellow-Yellow)          | 4410      |
| (25)        | Resistor (Yellow-White-Yellow)        | 3769      |
| (28)        | Condenser                             |           |
| (27)        | Output Transformer                    |           |
| (28)        | Voice Coil and Cone Assembly          |           |
| _           | Field Coil and Pot Assembly           | 36-3081   |
| <b>(29)</b> | Electrolytic Condenser (Double)       | 30-2004   |
| <b>30</b>   | Condenser (Double)                    | 3793-R    |
| 31)         | Resistor (Wire Wound)                 | 7465      |
| 32          | Power Transformer                     | 32-7046   |
| 33          | Tube Shield                           |           |
|             | Four Prong Socket                     | 7544      |
|             | Six Prong Socket                      | 7547      |

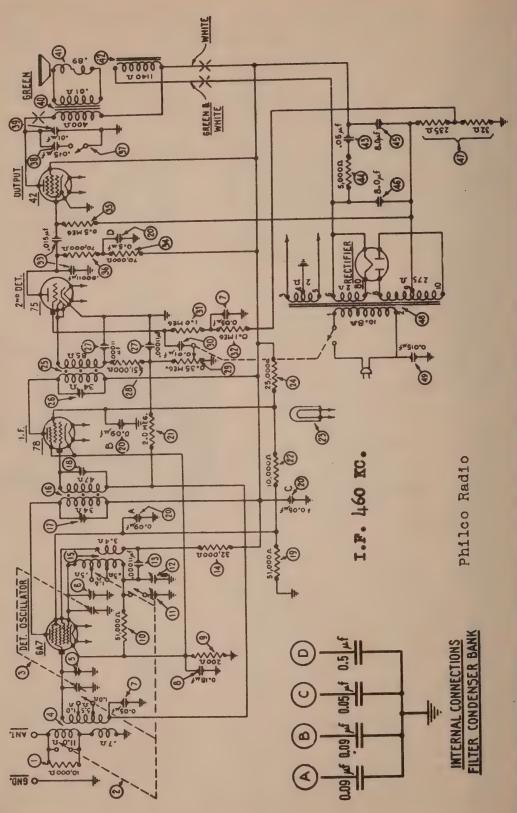
(16)

24 RECTIFIER 2" DETECTOR

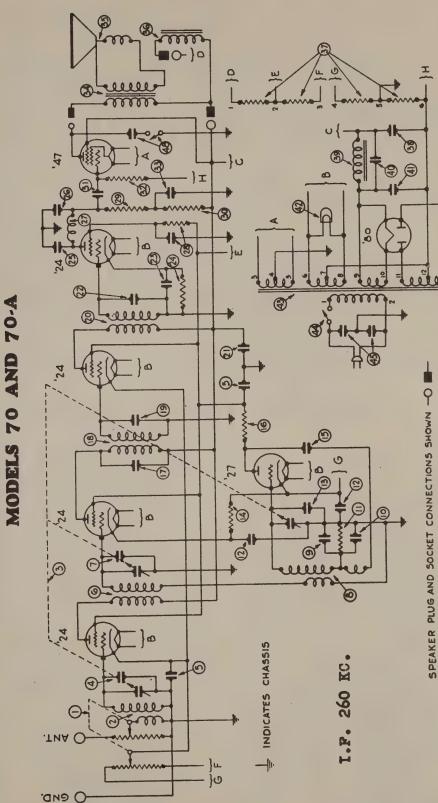
**6** 

(12)

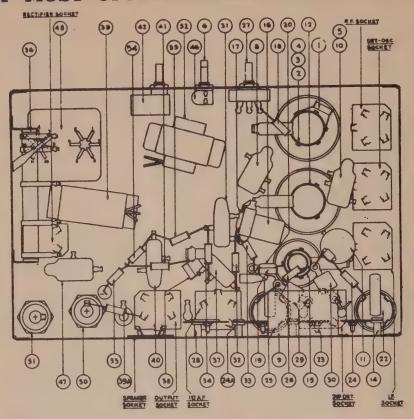
Model 60



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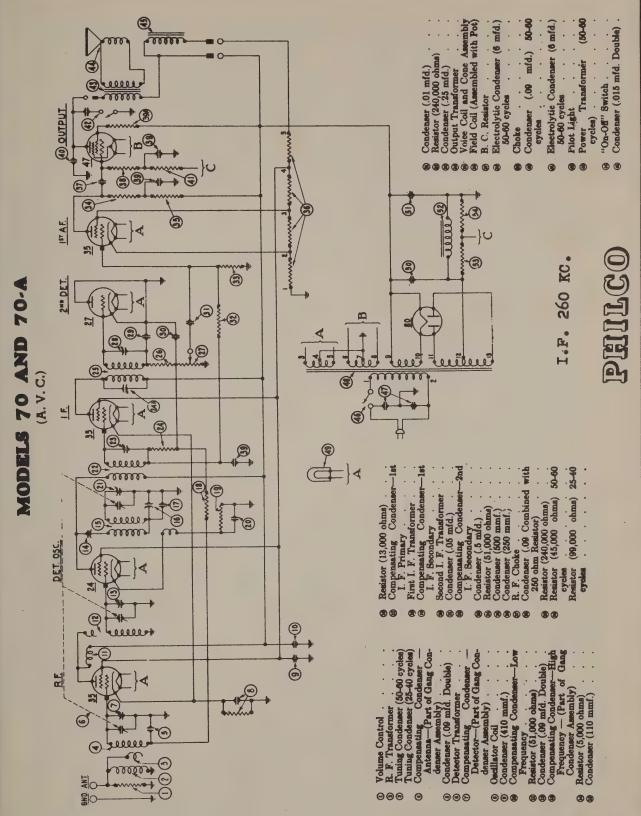


#### REPLACEMENT PARTS MODELS 70 AND 70-A.

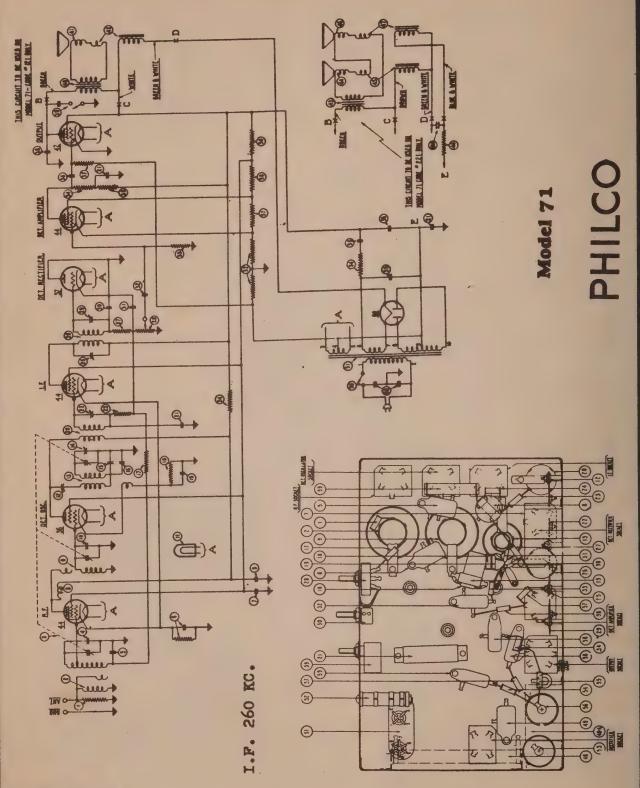
(Above Serial No. B-22,000)

|            | 5 and 6 Description                       | Part No. |          | lo. on<br>. 3 and 6 Description          | Part No.      |
|------------|-------------------------------------------|----------|----------|------------------------------------------|---------------|
| (1)        | Resistor (10,000 ohms)                    | 4440     | 6        | B. C. Resistor                           | 14196         |
|            | recember (10,000 orner) .                 | 7112     | (a)      | Condenser (.01 mfd.)                     | 3903-T        |
| (E)        | Antenna Coil                              | 04889    | <u>a</u> | Remator (490,000 ohms)                   | 4517          |
| (O)        | Autenna (-ou                              | 0.000    |          |                                          | 04194         |
| (O)        | Condenser (.05 mfd.) double               | 3615-AF  |          | Resistor (3,000 ohms)                    | 5309          |
| <b>(6)</b> | Tuning Condenser Assembly 50-60 cycles    |          | (        | Condenser (.01 mfd.)                     | 3903-U        |
| (9)        | Tuning Condenser Assembly 25-40 cycles    |          | (4)      | Resistor (330,000 ohms) 50-60 cybles     | 6046          |
| _          | Compensating Condenser — Antenna —        | 04100    | (44)     | Resistor (490,000 ohms) 25-40 cycles     | 4517          |
| 1          | (Part of Tuning Condenser Assembly)       |          | <b>@</b> |                                          | 03637         |
| (1)        | Condenser (.09 mfd. and 200 ohm Resistor) | 4989-L   |          | Output Transformer                       | 2673          |
| 0          | Condenser (.5 mfd.)                       | 3563     |          |                                          | 02996         |
| (1)        | Combined with ①                           |          | <b>@</b> | TOTAL COLL & COME I                      | 02966         |
| 9          | R. F. Choke                               | 04198    | (iii)    | Tible Con Tambinion with 1 or            |               |
| 9          | Interstage Coil                           |          | (        | On-Off Switch                            | 4095          |
| 6          | Compensating Condenser - Detector -       | 01100    | (3)      | Condenser (.015 mid. Double)             | 3793-H        |
|            | (Part of Tuning Condenser Assembly)       |          | (        | Power Transformer (50-60 cycles)         | 8117          |
| (1)        | Compensating Condenser—Coupling           | 04000-M  |          | Power Transformer (25-40 cycles)         | 5118          |
| <u>@</u>   | Oscillator Coil                           | 04186    |          | Power Transformer (50-60 cycles, 230     | 5119          |
| ı i        | Compensating Condenser - Low Fre-         |          |          | volta)                                   | 3463          |
|            | quency                                    | 04000-F  |          | Pilot Light                              | 3908          |
| (B)        | Condenser (410 mmf.)                      | 5120     |          | Electrolytic Condenser (6 mfd.) 50-60    | 4916          |
| <b>(a)</b> | Resistor (2,000,000 ohms)                 | 5872     |          | cycles                                   | 4010          |
| (          | Resistor (10,000 ohms)                    | 4412     |          | Electrolytic Condenser (14 mfd.) 25-40   | 5725          |
| (9)        | Coudenser (700 mmf.)                      | 4520     | _        | cycles                                   | 01 20         |
| (2)        | Compensating Condenser - High Fre-        |          | •        | Electrolytic Condensed (6 mfd.) 50-60    | 4916          |
|            | quency-(part of Tuning Condenser          |          |          | cycles                                   | 4910          |
| _          | Assembly)                                 |          |          | Electrolytic ('ondenser (10 mfd.)' 25-40 | 5142          |
| (9)        | First I. F. Transformer                   | 04190    |          | riter Choke                              | 4819          |
| 9          | Compensating Condenser—First I. F         |          |          |                                          |               |
| - 8        | Resistor (2,000,000 ohms)                 |          |          | Resistor (51,000 ohms)                   | 4518          |
|            | Second I. F. Transformer                  |          | 0        |                                          | 4517<br>04168 |
| 9          | Resistor (99,000 ohms)                    |          |          | Tube Shield                              | 03064         |
|            |                                           |          |          | Knob (Large)                             | 03437         |
| 9          | Volume Control                            |          |          | Knob Spring                              | 4147          |
| 9          | Compensating Condenser—Second I. F.       |          |          | Grid Clip                                | 4897          |
| -          | Condenser (110 mmf.)                      |          |          | Five Prong Stocket Assembly              |               |
| 9          | Condenser (110 mmf.)                      |          |          | Four Prong Socket Assembly               |               |
| 8          | Condenser (.01 mfd )                      |          |          | Dial Complete                            | 63031         |
| 9          | Resistor (4,000,000 ohme)                 | 6010     |          | Besel                                    | 5312          |
| 9          | Resistor (1,000,000 ohms)                 |          |          | Chamie Mounting Screw                    | W-468         |
| ě          | Resistor (70,000 ohms)                    | 5385     |          | Mounting Washer                          | W-315         |
|            | Resistor (25,000 ohms)                    | 4516     |          | Rubber Washer                            | -9198         |

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127 ts



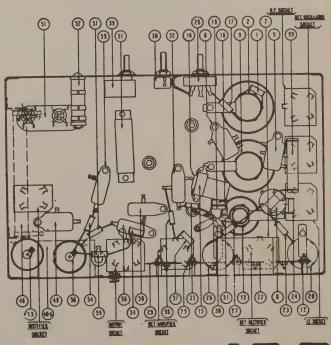
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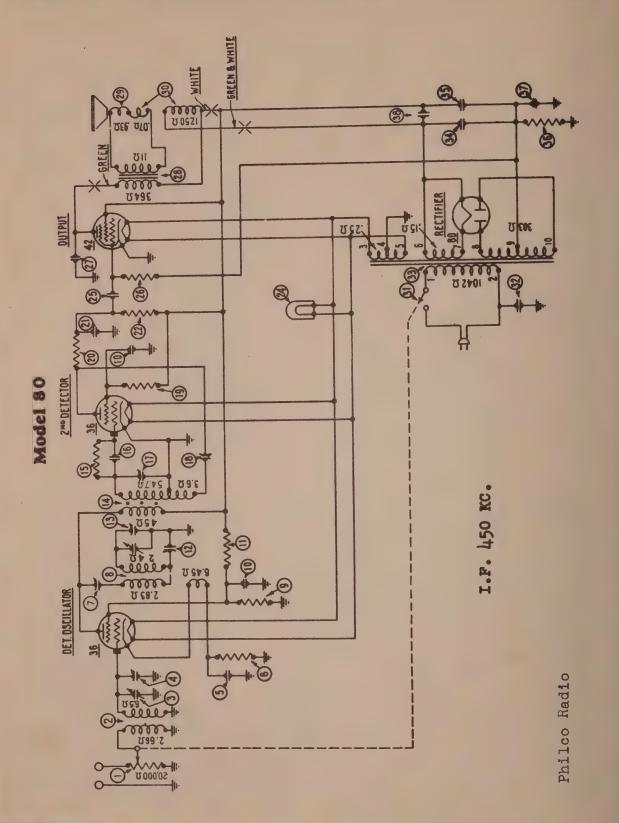
#### Replacement Parts for Model 71 Series

|               | Kep                                                                | iacement i       |
|---------------|--------------------------------------------------------------------|------------------|
| 1             | Resistor (10,000 ohms)                                             | 4412             |
| <u>©</u>      | R. F. Transformer                                                  | 04339            |
| Õ             | Tuning Condenser (50-60 cycles)<br>Tuning Condenser (25-40 cycles) | 04733            |
| <b>(4)</b>    | Tuning Condenser (25-40 cycles)                                    | 04734            |
| 0             | Condenser (.05 Mfd. double)                                        | 3615-AF          |
| (1)           | Condenser (.09 Mfd. and 200                                        | 4000 T           |
|               | ohm resistor)                                                      | 4989-L<br>3583   |
| ⑦<br>•        | Condenser (.5 Mfd.)                                                | 04198            |
| 0             | Detector Transformer                                               | 04185            |
| 9             | Compensating Condenser-De-                                         |                  |
| -             | Compensating Condenser—Detector—Part of tuning con-                |                  |
|               | denser assembly                                                    |                  |
| 0             | Pilot Light                                                        | 6608             |
| Œ.            | Compensating Condenser — 1st                                       | 04000 3/         |
| _             | I. F. primary                                                      | 04000-M<br>04186 |
| (B)           | Oscillator Coil<br>Compensating Condenser—High                     | 04100            |
| 1             | frequency—Part of tuning                                           |                  |
|               | condenser assembly                                                 |                  |
| <b>(39</b> )  | Compensating condenser—Low                                         |                  |
| _             | frequency                                                          | 04000-F          |
| <b>6</b>      | Condenser (410 Mmf.) (Yellow                                       | ****             |
|               | and Orange)                                                        | 5120             |
| <b>69</b>     | Resistor (1,000,000 ohms)                                          | 4409<br>6208     |
| (4)           | Resistor (15,000 ohms) Condenser (700 Mmf.) (White                 | 0200             |
| <b>(9)</b>    | and Vellow)                                                        | 4520             |
| <b>(See )</b> | , and Yellow)                                                      | 04190            |
| 8             | Filter Condenser Bank (205,                                        |                  |
|               | .25 Mfd.)                                                          | 04731            |
| 9             | Compensating Condenser — 1st                                       | 04000 34         |
| _             | I. F. secondary                                                    | 04000-M<br>4409  |
| <b>(See )</b> | Resistor (1,000,000 ohms)                                          | 5837             |
| <b>⊗</b>      | Resistor (1,000 ohms) Compensating Condenser—2nd                   | 0001             |
| •             | I. F. primary                                                      | 04000-M          |
| (m)           | Second I. F. Transformer                                           | 04319            |
| )             | Resistor (99,000 ohms)                                             | 4411             |
| <b>(See</b> ) | Volume Control                                                     | 6499             |
| 9             | Compensating Condenser-2nd                                         | 04000 34         |
| _             | I. F. secondary                                                    | 04000-M          |
| 0             | Condenser (110 Mmf.) (Blue and<br>Golden Yellow)                   | 4519             |
| <b>(a)</b>    | Condenser (110 Mmf.) (Blue and                                     | 2010             |
| •             | Golden Yellow)                                                     | 4519             |
| (a)           | Condenser (.01 Mfd.)                                               | 3903-J           |
| (1)           | Condenser (.01 Mfd.)                                               | 4409             |
| <b>(49)</b>   | Resistor (70.000 ohms)                                             | 5385             |
| <b>(40)</b>   | Resistor (25,000 ohms) Single                                      | 4810             |
|               | Speaker Resistor (51,000 ohms) Twin                                | 4516             |
|               | Sanahar Modela                                                     | 4518             |
| <b>(a)</b>    | Speaker Models                                                     | 3903-N           |
|               | Resistor (490,000 ohms)                                            | 4517             |
| <b>®</b>      | Condenser (.01 Mfd.)                                               | 3903-AA          |
| <b>(a)</b>    | m 0 1 1                                                            | 04757            |
| <b>(a)</b>    | Tone Control                                                       |                  |
| (             | Output Transformer — single speaker models                         | 2580             |
| -             | Voice Coil and Cone assembly.                                      |                  |
| (6)           | Voice Con and Cone assembly.                                       | 02020            |

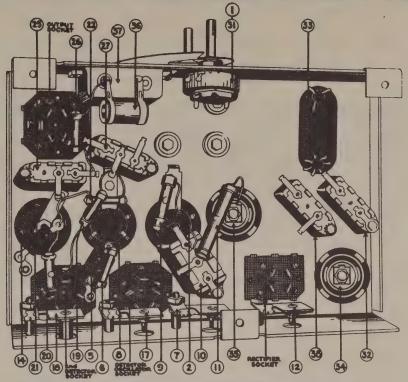
Philco Radio

| @  | Speaker Field and Bucking Coil                       |                |
|----|------------------------------------------------------|----------------|
|    | assembled with pot-(K-7)                             |                |
|    | single speaker models 0276                           | 1              |
| 6  | Output Transformer - Twin                            |                |
|    | speaker models                                       |                |
| @  | Voice Coil and cone assembly. 0282                   | 23             |
| @  | Speaker Field and Bucking Coll                       |                |
|    | assembled with pot(K-10)                             |                |
|    | Twin speaker models . 0276                           |                |
| @  | Voice coil and cone assembly. 0282                   | 23             |
| @  |                                                      |                |
|    | -(K-9) Twin speaker models 0276                      | 32             |
| @  |                                                      |                |
|    | —Twin speaker models 645                             | 51             |
| @  | A Condenser (.25 Mfd.) Twin                          |                |
|    | Speaker Models                                       |                |
| @  | g condenses (in the same)                            | 3-H            |
|    | On-off Switch 649                                    | 98             |
| 6  | Power Transformer-50-60 cy-                          |                |
|    | cles single speaker 64                               | ) <del>1</del> |
|    | Power Transformer-25-40 cy-                          |                |
|    | cles—single speaker 64!                              | 99             |
|    | Power Transformer 50-60 cy-                          | r a            |
|    | cles 230 volts single speaker 645                    | 20             |
|    | Power Transformer—50-60 cy-<br>cles—twin speaker 64: | E 77           |
|    | Cles — twin speaker                                  | 31             |
|    | Power Transformer—25-40 cy-<br>cles—twin speaker 64  | <b>5</b> 0     |
|    | Power Transformer—50-60 cy-                          | <b>J</b> C     |
|    | cles—230 volts—twin speaker 64                       | 50             |
|    | Clob 200 told this product                           | 30             |
| ų. | Resistor—wire wound (245 ohms and 185 ohms) 64       | 52             |
| 6  | Electrolytic Condenser (6 Mfd.)                      |                |
| ٧  | (50-60 cycles) single speaker 64                     | 53             |
|    | 8 Mfd. Twin speaker 670                              |                |
| 6  | Resistor (10,000 ohms) 44                            |                |
|    |                                                      | 15-G           |
|    | Electrolytic Condenser (6 Mfd.)                      |                |
| *  | (50-60 cycles) single speaker 49                     | 16             |
|    | 8 Mfd. Twin speaker 67                               | 06             |
| 6  | Resistor (5,000 ohms) 53                             | 10             |
|    | Resistor (5,000 ohms) 53                             | 10             |
|    | Resistor (13,000 ohms) 64                            | 50             |
|    | Tube Shield (small) 53                               | 87             |
|    | Tube Shield (large) 047                              | 35             |
|    | · • • •                                              |                |





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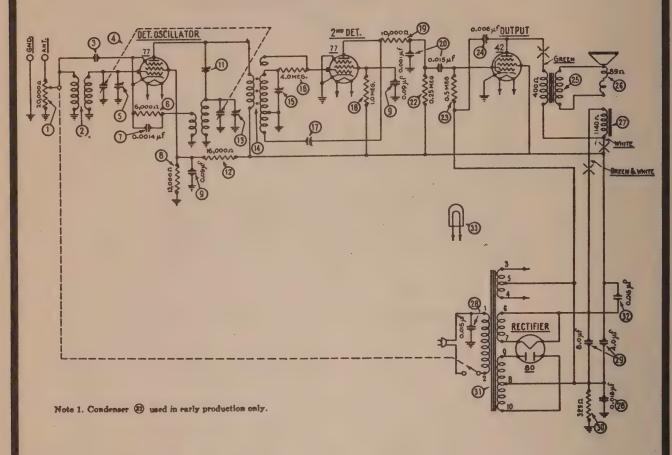
#### REPLACEMENT PARTS MODEL 80

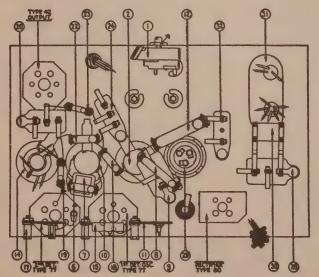
| No. on                                 |               | No. on                                                                                                                                                                                                         |
|----------------------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Figs. 2 and 3 Description              |               | Figs. 2 and 3 Description Part No.                                                                                                                                                                             |
| 1 Volume Control—Combined with On-O    | ff            | (28) Condenser (.015 Mfd.)                                                                                                                                                                                     |
| Switch                                 | 7439          | ® Resistor (490,000 Ohms) 4517*                                                                                                                                                                                |
| (2) Antenna Transformer                |               | © Condenser (.006 Mfd.)                                                                                                                                                                                        |
|                                        |               | Output Transformer                                                                                                                                                                                             |
|                                        |               | (a)       Resistor (490,000 Ohms)       4517*         (b)       Condenser (.006 Mfd.)       7625-B*         (c)       Output Transformer       2660         (d)       Voice Coil and Cone Assembly       02861 |
| Compensating Condenser — Antenna -     |               | Speaker Field and Bucking Coil As-                                                                                                                                                                             |
| Part of Tuning Con. Assembly           |               | sembled with Pot 02677*                                                                                                                                                                                        |
| © Condenser (710 Mmf.) White and Yello |               | (n) On-Off Switch—Combined with Volume                                                                                                                                                                         |
| Resistor (10,000 Ohms)                 |               | Control                                                                                                                                                                                                        |
| Tompensating Condenser-I.F. Primar     |               |                                                                                                                                                                                                                |
| Oscillator Coil                        |               | Gy Condition (102 million)                                                                                                                                                                                     |
| Resistor (9,000 Ohms)                  | . 7501        |                                                                                                                                                                                                                |
| © Condenser (.09 Twin)                 | . 4989-В      |                                                                                                                                                                                                                |
| (ii) Resistor (16,000 Ohms)            | . 7500        | Power Transformer 50-60 Cycles, 230 Volts 7423                                                                                                                                                                 |
| @ Compensating Condenser — Low Fr      | <del>}-</del> | Electrolytic Condenser (8.0 Mfd.) 6707                                                                                                                                                                         |
| quency:                                | . 04000-S     | Electrolytic Condenser (4.0 Mfd.) 7467 Resistor (325 Ohms) Wire Wound 7465* Electrolytic Condenser—Dry—(10 Mfd.) 7440* Condenser (.01 Mfd.) 3903-AJ*                                                           |
| @ Compensating Condenser - High Fr     | 2-            | Resistor (325 Ohms) Wire Wound 7465*                                                                                                                                                                           |
| quency - Part of Tuning Con.           |               | Electrolytic Condenser—Dry—(10 Mfd.) 7440*                                                                                                                                                                     |
| Assembly                               |               |                                                                                                                                                                                                                |
|                                        |               | Bezel                                                                                                                                                                                                          |
| I.F. Transformer                       | . 0000-1      | Dial Complete                                                                                                                                                                                                  |
| Resistor (4,000,000 Ohms) Mounted of   | . 6010        | Tube Shield 7172                                                                                                                                                                                               |
| I.F. Transformer                       |               | Knob (Large)                                                                                                                                                                                                   |
| Condenser (50 Mmf.) White-Mounte       | d             | Knob (Small)                                                                                                                                                                                                   |
| on I.F. Transformer                    | . 3774        | Knob Spring                                                                                                                                                                                                    |
| Compensating Condenser—I.F.            |               | Grid Clip 4897                                                                                                                                                                                                 |
| Secondary                              | . 04000-D     | Four Prong Socket Assembly 5026                                                                                                                                                                                |
| - " 1 0 1                              | 1.04000       | Five Prong Socket Assembly 4956                                                                                                                                                                                |
|                                        | 4400+         | Six Prong Socket Assembly 64!7                                                                                                                                                                                 |
| (10,000,000 Ohms)                      | 4412          | Chassis Mounting Screw W-567                                                                                                                                                                                   |
| Resistor (10,000 Ohms)                 | K91K          | Chassis Mounting Washer W-315                                                                                                                                                                                  |
| a Condenser (1,000 Mmf.) Green and Whi | 4410          | Rubber Washer 5189                                                                                                                                                                                             |
| Resistor (240,000 Ohms)                | . 6608        | Pilot Lamp Shield 5760                                                                                                                                                                                         |
| Pilot Light                            | . 0000        | 2 to train ones.                                                                                                                                                                                               |

\* A number of circuit changes were made on chassis of run No. 5 and above. This run number is rubber stamped in a star on the back of the chassis. Refering to Fig. 2 and 3, the condenser @ connects to the B- end of resistor @ instead of to ground. The bucking coil - that section of @ in series with the voice coil - is shorted out. The 10 mfd. dry electrolytic condenser @ is eliminated, and replaced with a substitute .015 section combined with @, part 3793R. The .01 mfd. condenser @ is eliminated. The positions of @ and @ are changed in the chassis from that shown in Fig. 8.

#### MODEL 84

Philco Radio





I. F. 460 K. C.

**a** 

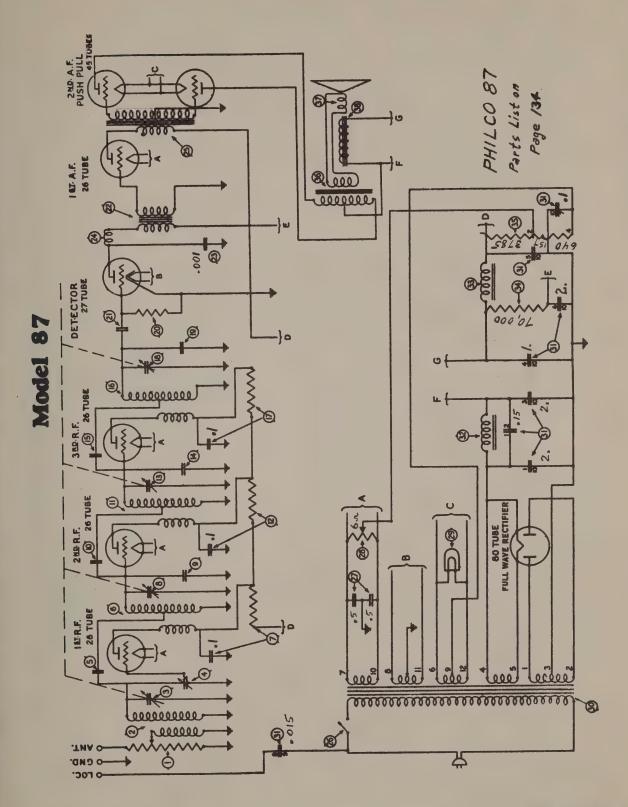
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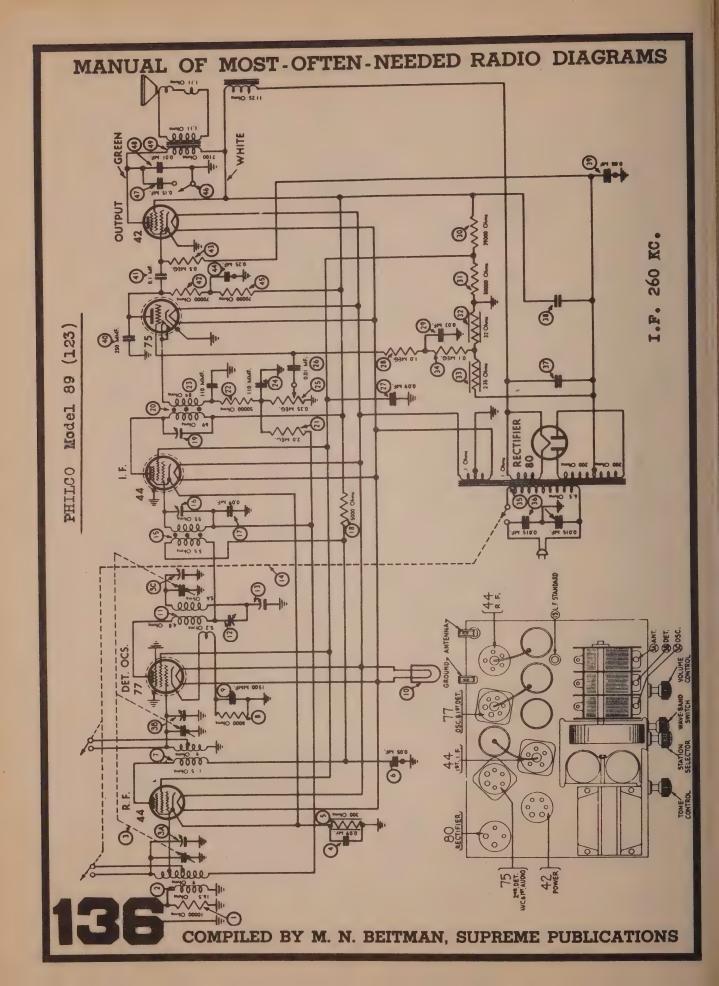
# Replacement Parts for Model 86

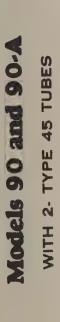
| 2871-A<br>2898 | 2896<br>3012<br>3035-A<br>3036-A                                                                                                   | 3051-A<br>3054-A<br>3103<br>3164-A                                                                               | 3202-A<br>3231<br>3236-A                                                                                 | 3247-A<br>3263-A<br>3272<br>L-943-A<br>L-1037                                                                                                                 | L-1039<br>3312<br>3312<br>odul 63) use<br>ocher parr<br>3278<br>3278                                                                                            |
|----------------|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                | Speaker Cone and Voice Coil Speaker Field Coil Cable Spring Coultrol Knob Thining Condenser 300 300 300 300 300 300 300 300 300 30 |                                                                                                                  | 250 Tube Socket TT Tube Socket Pilot Lamp Socket Assembly Jack Rullstor Nut Transinal Papend Assembly 32 | Spring Type<br>Cord and Plug                                                                                                                                  | Willing value (able Speaker Mounting Bolts                                                                                                                      |
|                | <b>6</b> 3                                                                                                                         |                                                                                                                  | K                                                                                                        |                                                                                                                                                               | <b>®™</b>                                                                                                                                                       |
| PART NO        | 3076<br>3075-B<br>3001-B<br>3133                                                                                                   | 3025-4<br>3075-4<br>inding) 3292-4<br>3282-4                                                                     | 3082<br>3241<br>3081<br>3256-A                                                                           | 3242<br>3242<br>3253<br>3116<br>3080                                                                                                                          | 3096<br>3105<br>3271<br>3246<br>3246<br>3269<br>3232<br>3232                                                                                                    |
| PART NAME      | Volume Control  R. F. Transformer (Antenna Tuning)  Ining Condenser (complete with drum and scale)  Rease Control                  | Veutralizing Condenser A. F. Transformer Sy-Pass Condenser (1 mfd. with Plate Resistor W Compensating Condensers | örid Condenser<br>vadio Transformer<br>2-Pass Condenser (001 mfd.)<br>Petector R. F. Choke               | honograph Pick-Up Jack<br>ush-Pull Input Transformer ower-Toggle Switch Pinnary Tap Switch Financy Tap Switch Filament By-Pass Condenser (2 sections .5 mid.) | Cohm Hum Adjuster Picto Lamp Cover Transformer (60 cycle) Filter Condenser Block (60 cycle) Filter Choke Coil B-C Section Resistor Push-Pull Output Transformer |
|                | Volum<br>R. F. S<br>G - 6 Tuning                                                                                                   | COMP                                                                                                             | Grid Conc<br>Audio Tra<br>By-Pass C                                                                      | Phonograp Push-Pull Power-Tog Primary T                                                                                                                       | Pilot<br>Pilot<br>Pilot<br>Filter<br>Filter<br>Push-                                                                                                            |
|                | (a) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c                                                                                         | 1 1 1 1<br><b>600</b>                                                                                            |                                                                                                          |                                                                                                                                                               |                                                                                                                                                                 |

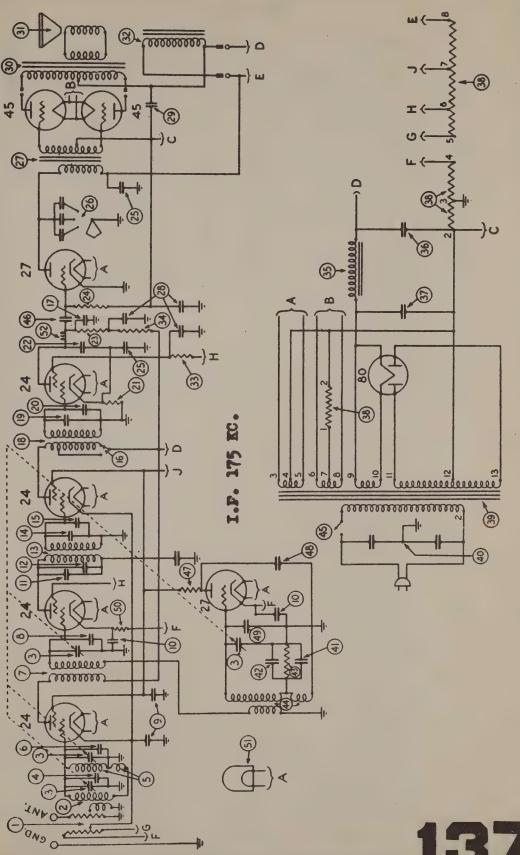
# Replacement Parts for Model 87

| 3542              | 2848<br>2844.A<br>2844.A<br>2860                                                                                  | 3012<br>3301<br>3300<br>3464                                                                                              | 3306<br>3164<br>3428-A<br>3202-A                                                                    | 3464-A<br>3442-A<br>1-443-A<br>1-1006-A<br>3312<br>3306<br>8540                                                                                                                                          |
|-------------------|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Detector Registor | B-C Resistor  Push-Pull Output Transformer  Speaker Cone and Voice Coil  Speaker Field Coil                       | Speaker Flug Cable Spring Control Knob Tuning Condenser Control Knob (Volume and Range Control)                           | Knob Spring Fibre Angenting Wrench 4-Role Tube Socket Pilot Lamp Socket Amenby Towning Panel Amenby | Speaker Socket 5-Hole Tube Socket A.C. Attachment Cord and Plug Speaker Cable Socket Wrench for Speaker Mounting Bolts Tuning Scale Oscillator Kit Wood Swritch Flug                                     |
| (3                | <b>****</b>                                                                                                       |                                                                                                                           |                                                                                                     |                                                                                                                                                                                                          |
| PART NO.          | 3076<br>3075-B<br>3001-B<br>3133                                                                                  | 341-A.<br>3075-A.<br>3292-A.<br>3435-A.                                                                                   | 3062<br>3241<br>3266-A                                                                              | 3501<br>3006<br>3006<br>3403<br>3401<br>3422<br>3472                                                                                                                                                     |
| PART NAME         | Volume Control  R. F. Transformer (Antenna Tuning)  Tuning Condenser (Complete with Drum and Scale) Ranse Control | Neutralising Condenser R. F. Transformer By-Pass Condenser (.1 mfd. with Plate Resistor Winding.) Compensating Condensers | Grad Least Grad Condenser Audio Transformer By-Pase Condenser (001 mfd.) Detector R. F. Choke       | Push-Puil Input ITransformer Push-Puil Input ITransformer Power Toggle Switch 6-Ohm Hum Adjustor Pilot Lamp Power Transformer Filter Condenser Block Filter Choke Coil (First) Filter Choke Coil (First) |
|                   | 9<br> <br>  (9)<br>  (9)                                                                                          | 9999<br>         <br>       <br>                                                                                          | <b>3</b> 9 <b>9</b> 3                                                                               | & & & & & & & & & & & & & & & & & & &                                                                                                                                                                    |









#### Models 90 and 90-A

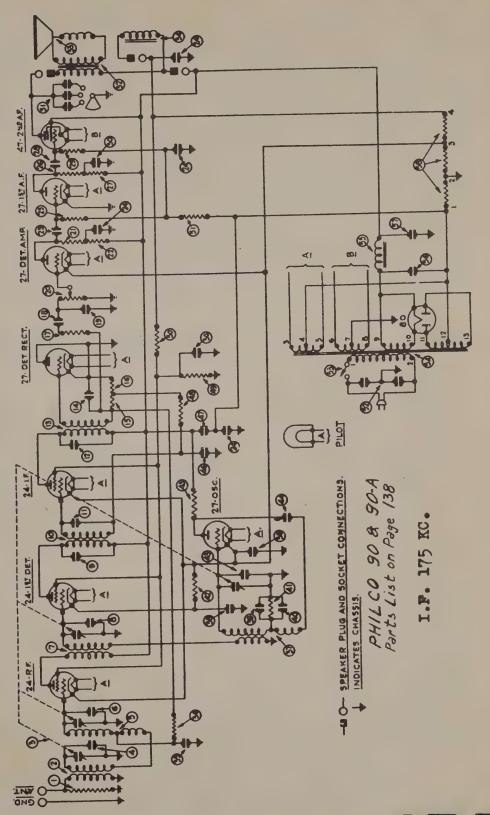
WITH 2- TYPE 45 TUBES

|                                                           |                                                                 |              | No. on                                                                                                                                                            |                  |
|-----------------------------------------------------------|-----------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Pige. 3 s                                                 | m<br>and 4 Description .                                        | Part No.     | Figs. 2 and 4 Description                                                                                                                                         | wet No.          |
| 0                                                         | Volume Control                                                  | 5039         | @ Condenser .015 M. F. (Double)                                                                                                                                   | 1798-IE          |
| ő                                                         | let R. F. Transformer                                           | 03018        | © Condenser .0007 M. F. Compensating Condenser Resistor—80,000 Ohms                                                                                               | 9080             |
| Ö                                                         | Gang Condenser-50 to 60 cycles                                  | 03001        | © Condenser .0007 M. F. Componenting Condenser Resistor—30,000 Ohms Occillator Coil On-Off Switch Condenser .001 M. F. Resistor—13,000 Ohms Condenser .0001 M. F. | 287              |
|                                                           | Gang Condenser 25 to 40 cycles .                                | 03078        | Resistor—50,000 Obras                                                                                                                                             | 016              |
| <b>③</b>                                                  | Compensating Condenser (Part of Tun-                            |              | © On-Off Switch                                                                                                                                                   | 1095             |
| _                                                         | ing Condenser Assembly)                                         | 02014        | Condenser .001 M. F.                                                                                                                                              | 5215             |
| 0                                                         | 2nd R. F. Transformer .<br>Compensating Condenser (Part of Tun- | 09014        | Resistor-13,000 Ohms                                                                                                                                              | 3766             |
| 0                                                         | ing Condenser Assembly)                                         |              | Condenser .00011 M. F.                                                                                                                                            | <b>L</b> 519     |
| •                                                         | 1st Det. Transformer                                            | 08015        | Compensating Condenser (Part of Tun-                                                                                                                              |                  |
| ő                                                         | Compensating Condenser (Part of Tun-                            |              | ing Condenser Assembly)                                                                                                                                           | 8826             |
| •                                                         | ing Condenser Assembly)                                         |              | Resistor—5,000 Ohms                                                                                                                                               | 8463             |
| 0                                                         | Condenser .09 M. F. (Double)                                    | 4980-C       |                                                                                                                                                                   | 3086             |
| - ⊚                                                       | Condenser .09 M. F. (Double)                                    | 4989-B       | R. F. Choke                                                                                                                                                       | -043             |
| 9                                                         | Fixed Condenser .00011 Assembled                                | 3772-C       |                                                                                                                                                                   | 3002             |
| 9                                                         | Compensating Condenser)                                         | 03009        | Knob (large) Dial Control                                                                                                                                         | 4966-A           |
| 8                                                         | 1st I. F. Transformer                                           |              | Spring (Dial Knoht)                                                                                                                                               | 4147             |
| 8                                                         | Compensating Condenser Fixed Condenser .00011 Assembled         | 03061        | Knobs (small) Tone and Volume Control                                                                                                                             | 4959-A           |
| Z                                                         | Normal Maximum Switch                                           | 3116         | Knob (switch)                                                                                                                                                     | 4290-A           |
| 8                                                         | Condenser (.000035 mf)                                          | 4090         |                                                                                                                                                                   | 4807             |
| 8                                                         | 2nd I F Transformer                                             | 03143        | Speaker Plug and Cable                                                                                                                                            | 1124-A<br>8747   |
| <b>6</b>                                                  | Compensating Condenser Amembled                                 | 08051        |                                                                                                                                                                   | 5026             |
| 9                                                         | PLINOI CONGRUNCE .VVVIII                                        |              |                                                                                                                                                                   | 4955             |
| 9                                                         | Remistor—50,000 Ohms                                            | 4518<br>4990 | Five Prong Socket Assembly                                                                                                                                        | 4956             |
| \$@\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$ | Condenser .00035                                                | 4410         | Speaker Socket                                                                                                                                                    | 4957             |
| 2                                                         | Resistor—250,000 Ohms                                           | 4400         | Volume Control Insulator                                                                                                                                          | 4092             |
| 2                                                         | Condenser .5 M. F. (Double)                                     | 03024        | Volume Control Insulator                                                                                                                                          | 4286             |
| 2                                                         | Tone Control                                                    | 4037-A       | Fahnstock Clip L                                                                                                                                                  | 1126             |
| 8                                                         | 1st Audio Transformer                                           | 4953         | Finishing Rosettes                                                                                                                                                | 4267             |
| ĕ                                                         | Condensers 225 M. F. and 15 M. F.                               | 03029        |                                                                                                                                                                   | 7-493<br>7-483   |
| 9                                                         | Condenser .06 M. F.                                             | 3615-G       | phones wontrem poress (7 mos)                                                                                                                                     | 5021             |
| - 8                                                       | Output Transformer:                                             | 2848         | Dial Mica for Gang Condenser Compensating                                                                                                                         |                  |
|                                                           | H: (For Large Cone Assembly)                                    | 2766         | Condenser                                                                                                                                                         | 3478             |
|                                                           | Ka (For Small Cone Assembly) Voice Coil Assembly and Cone:      | 2100         | Insulating Washer for Compensating                                                                                                                                |                  |
| •                                                         | H <sub>s</sub> (Large Cone)                                     | 02997        | Condenser                                                                                                                                                         | 3500             |
|                                                           | K. (Small Cone)                                                 | 02996        | Tuning Condenser Mounting Washer .                                                                                                                                | 3014             |
| 69                                                        | Speaker Field-Assembled with Pot and                            |              | Tuning Condenser Mounting Washer .                                                                                                                                | 3015             |
| _                                                         | Frant                                                           |              | Tuning Condenser Mounting Sleeve .                                                                                                                                | 3916             |
| 6                                                         | Remetor-250,000 Ohms                                            |              | Spring for Tuning Condenser                                                                                                                                       | 4255             |
| 9                                                         | Resistor—250,000 Ohms                                           |              | Besel                                                                                                                                                             | 5009             |
|                                                           | Filter Choke                                                    | 4961         | Complete Pilot Bracket                                                                                                                                            | 0 <b>0</b> 061-A |
|                                                           | Condenser 6 M. F. Electrolytic Type                             | 4916         | Dial Disc                                                                                                                                                         | 4925             |
|                                                           | (50-60 cycles)                                                  |              | Light Shield Screen                                                                                                                                               | 4937             |
|                                                           | Condenser 10 M. F. Electrolytic Type<br>(25-40 cycles)          | 5142         | Friction Drive Bracket                                                                                                                                            | 4980             |
| 0                                                         | Condenser 6 M. F. Electrolytic Typ                              |              | Brass Collar for Friction Drive                                                                                                                                   | 4935             |
| 6                                                         | (25-40) and (60-60) cycles                                      | 4916         | Shaft                                                                                                                                                             | 4931             |
| •                                                         | B. C. Remotor                                                   | 4958         |                                                                                                                                                                   |                  |
| 2                                                         | Power Transformer (50 to 60 cycles) .                           | 4938         |                                                                                                                                                                   |                  |
|                                                           | Power Transformer (25 to 40 cycles) .                           | 4939         |                                                                                                                                                                   |                  |

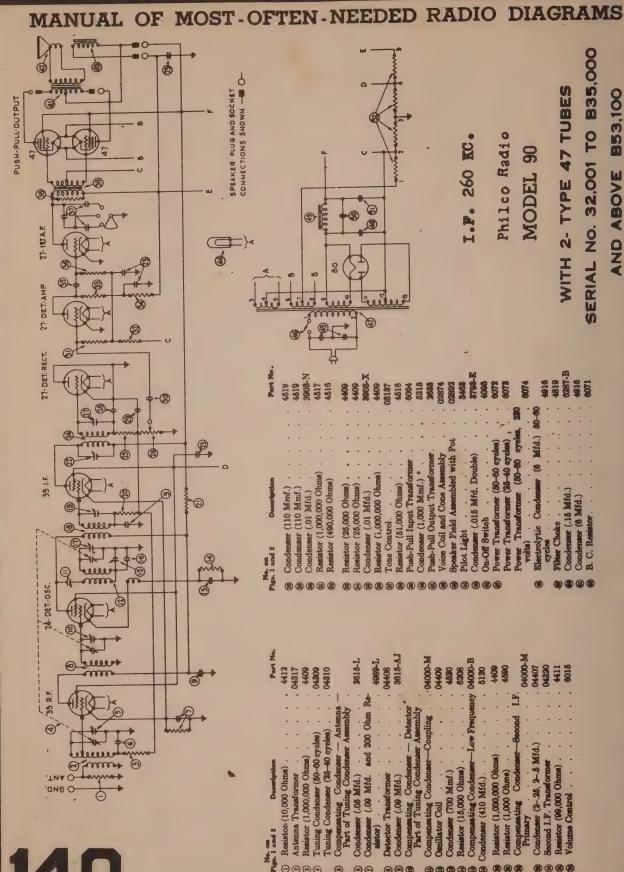
#### REPLACEMENT PARTS-MODELS 90 and 90-A RECEIVERS

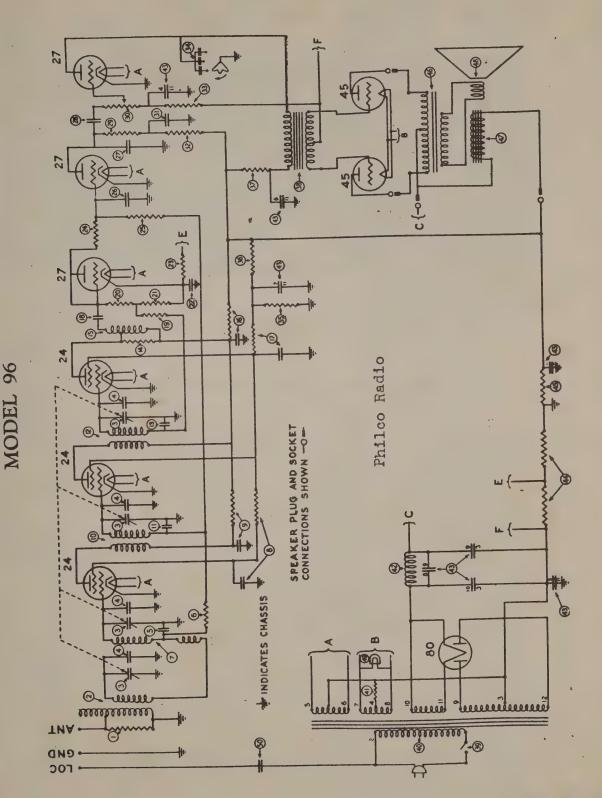
|                | (A                                                          | bove Serial No. 237 | ,001)                                                     |
|----------------|-------------------------------------------------------------|---------------------|-----------------------------------------------------------|
| No.<br>Ples. 3 |                                                             | Part No.            | Voice Coll Assembly and Cone:                             |
| . 0            | Resistor (10,000 ohms)                                      | 4412                | H <sub>2</sub> (Large Cone) 02997                         |
| 0              | First R. F. Transformer                                     | 03360               | K. (Small Cone) 02996                                     |
| 0              |                                                             | 03001               | Speaker Field (Assembled with pot                         |
| •              | Gang Condenser (25-40 cycles)                               | 03078               | and frame)                                                |
| <b>(</b>       | Compensating Condenser (part of gang                        | 3° 💮                | By-Pass Condenser (.05 mfd.) 3615-W                       |
|                | condenser assembly)                                         | :                   | Resistor (490,000 ohms) 4517                              |
| <b>③</b>       | Second R. F. Transformer                                    |                     | Oscillator Coil                                           |
| •              | Compen ating Condenser (part of gang<br>condenser assembly) | 9                   | By-Pass Condenser (.09 mfd.) double 4989-G                |
| 0              | First Detector Transformer                                  | 03015               | Compensating Condenser (.0007 mfd.) Assembled 03060       |
| 0              | Compensating Condenser (part of gang                        |                     | Resistor (61,000 ohms)                                    |
| · ·            | condenser assembly)                                         | · •                 | Resistor (5,000 ohms) 5310                                |
| 0              | Compensating Condenser (First I. F                          |                     | Compensating Condenser (part of                           |
|                | Primary)                                                    | 00000               | tuning condenser assembly)                                |
| •              | First I. F. Transformer                                     | 03009               | Condenser (110 mmf.) 4519                                 |
| •              | Compensating Condenser (First I. F<br>Secondary)            |                     | Resistor (51,000 ohms) 4237                               |
|                | Compensating Condenser (Second I                            |                     | By-Pass Condenser (.05 mfd.) 3615-U                       |
| •              | F. Primary)                                                 | 03317 .             | By-Pass Condenser (.05 mfd.) 3615-E                       |
| <u> </u>       | Second I. F. Transformer                                    | 03345               | Resistor (490,000 ohms) 4517                              |
|                | Condenser (110 mmf.)                                        | 4519                | Resistor (70,000 ohms) 5385                               |
| ă a            | Resistor (51,000 ohms)                                      | 4518                | Resistor (25,000 ohms) 4516                               |
| <u> </u>       | Resistor (51,000 ohms)                                      | 4518                | Resistor (240,000 ohms) 3768                              |
| 60             | Resistor (99,000 ohms)                                      | 4411                | Condenser (.015 mfd.) double 3793-E                       |
| ě.             | By-Pass Condenser (.01 mfd.)                                | 3903-M              | On-Off Switch 4095                                        |
| ă              | Condenser (.00025 mfd.)                                     | 3082                | Power Transformer (50-60 cycles). 5362                    |
|                | Volume Control                                              | 5366                | Power Transformer (25-40 cycles). 5363                    |
| •              | Resistor (51,000 ohms)                                      | 4518                | Power Transformer (50-60 cycles, 220 volts) 5364          |
| 0              | Resistor (70,000 ohms)                                      | 5385                | Choke 4951                                                |
| •              | By-Pass Condenser (.01 mfd.)                                | 3903-M              | Condenser (6 mfd.) Electrolytic type                      |
| 0              | Condenser (11 mfd., 113 mfd., 22                            |                     | (50-60 cycles) 4916                                       |
|                | mfd.)                                                       | 03325               | Condenser (10 mfd.) Electrolytic type                     |
| 0              | Resistor (240,000 ohms)                                     | 4410                | (25-40 cycles) 5142                                       |
| 9              | Resistor (25,000 ohms)                                      | 3656<br>3656        | Condenser (6 mfd.) Electrolytic type                      |
| 6              | Resistor (25,000 ohms)                                      | 3903-P              | (50-60 cycles)                                            |
| 9              | By-Pass Condenser (.01 mfd.)                                | 4410                | Condenser (10 mfd.) Electrolytic type (25-40 cycles) 5142 |
|                | Resistor (240,000 ohms)                                     | 03327               | B. C. Resistor 5365                                       |
|                | Condenser (.25 mfd., 1 mfd.)                                | 4037-A              | Line Cord and Plug L-948                                  |
|                |                                                             | 2673                | Tube Shield (Large) 03378                                 |
|                | Output Transformer                                          | 2010                | 2000 00000 (2000)                                         |
|                |                                                             |                     |                                                           |
|                | OMPILED BY M                                                | N BEIT              | MAN, SUPREME PUBLICATIONS                                 |
|                | CHILIDD DI M                                                | · M. DELL           | MAN, SUPREME PUBLICATIONS                                 |
|                |                                                             |                     |                                                           |
|                |                                                             |                     |                                                           |
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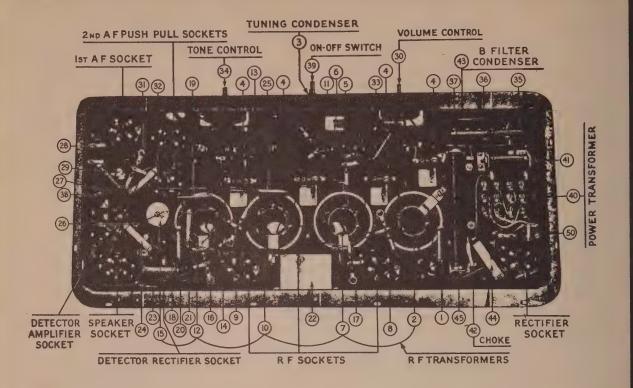




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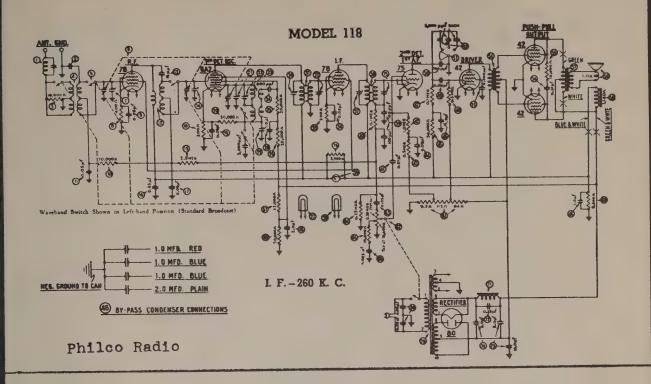


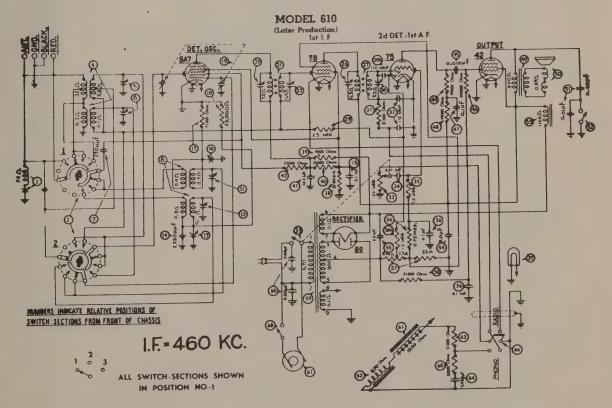




#### Replacement Parts for Model 96

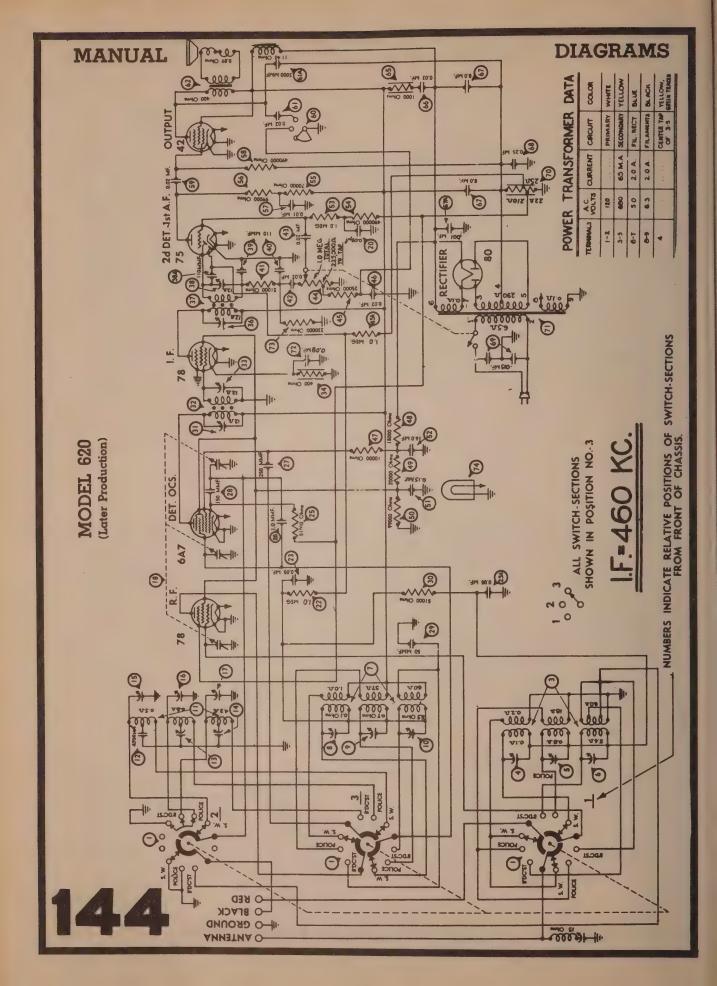
| No.                                    |                                | Part No.       | No. Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Part No. |
|----------------------------------------|--------------------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| _                                      | Description                    |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 4093     |
| 1                                      | Antenna Resistor               | 3320<br>3744 A | · Co totalize Civilitian to the contract of th | 3615-D   |
| (E)                                    | First R. F. Transformer        | 3/44-A         | By-Pass Condenser                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 3768     |
| (3)                                    | Tuning Condenser               | 4000-D         | Resistor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 3542     |
| <b>(1)</b>                             | Compensating Condenser         | 3772-A         | ® Resistor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |          |
| <b>(3)</b>                             | By-Pass Condenser              | 3615-F         | Tone Control                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 4037-A   |
| <b>6</b>                               | Resistor                       | 3542           | Resistor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 3542     |
| $\overline{7}$                         | Second R. F. Transformer       | 3744-B         | Resistor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 3766     |
| (B)                                    | By-Pass Condenser and Resistor | 3615-C         | Resistor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 3656     |
| Ŏ                                      | By-Pass Condenser and Resistor | 3615-B         | Input Transformer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 3537     |
| (i)                                    | Third R. F. Transformer        | 3744-C         | 39 On-Off Switch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |
| <u>a</u>                               | By-Pass Condenser              | 3615-E         | Power Transformer (60 Cycle)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 3752     |
| 6                                      | Fourth R. F. Transformer       | 3744-C         | Power Transformer (25 Cycle) .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3753     |
| 79                                     | By-Pass Condenser              | 3615-E         | (i) C Resistor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3763     |
| 8                                      | Resistor                       | 3766           | (2) Choke                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 3422     |
| 8                                      | Fifth R. F. Transformer        | 3775-B         | Filter Condenser (60 Cycle).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 3754     |
|                                        | By-Pass Condenser and Resistor | 3615-B         | Filter Condenser (25 Cycle)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 3755     |
|                                        | By-Pass Condenser and Resistor | 3615-C         | Resistor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 3764     |
| Ä                                      | Condenser *                    | 3774           | B Resistor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 3762     |
|                                        | Resistor                       |                | (4) Out-Put Transformer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 2848     |
|                                        | Resistor                       | 3767           | (7) Field Coil                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |          |
|                                        | Resistor                       | 3767           | Woice Coil and Cone                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 2794-B   |
|                                        | By-Pass Condenser              | 3583           | Voice Coil and Cone                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 3463     |
|                                        | Resistor                       | 3767           | (LOC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 3793-B   |
|                                        | Resistor                       |                | Knob (Vol. Control)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 3579     |
|                                        | Resistor                       |                | Knob (Tuning Condenser)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |          |
|                                        | By-Pass Condenser              | 3082           | Dial Indicator                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |          |
|                                        | By-Pass Condenser              | 3082           | Scale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |          |
| 9                                      | Condenser                      | 3703_C         | Speaker Dlur and Yahla (Short)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | T_1101_A |
| @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@ |                                |                | Speaker Plug and Cable (Short)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1 1102 A |
|                                        | Resistor                       |                | Speaker Plug and Cable (Long) the third and fourth Condensers are 3968-A.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | L-1102-A |

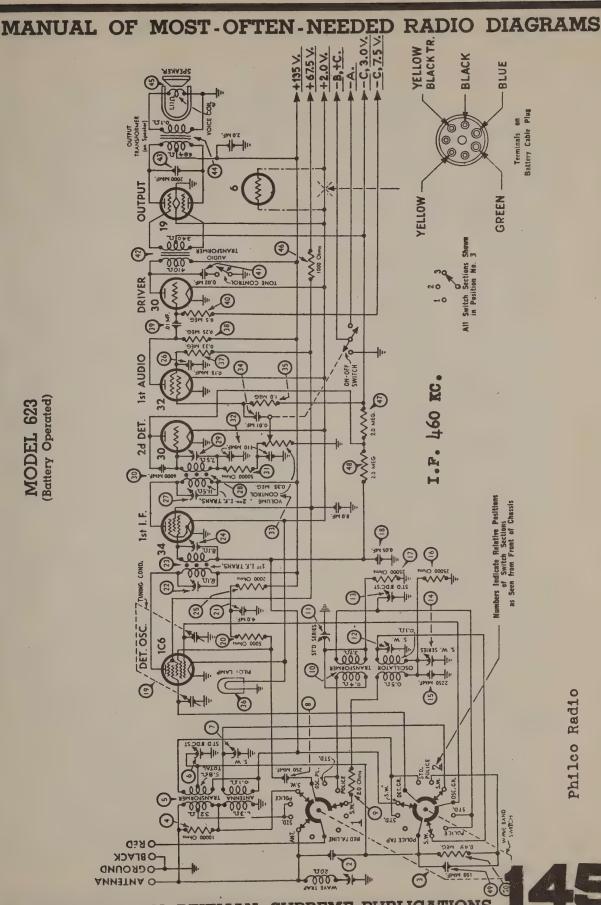




Philco Radio

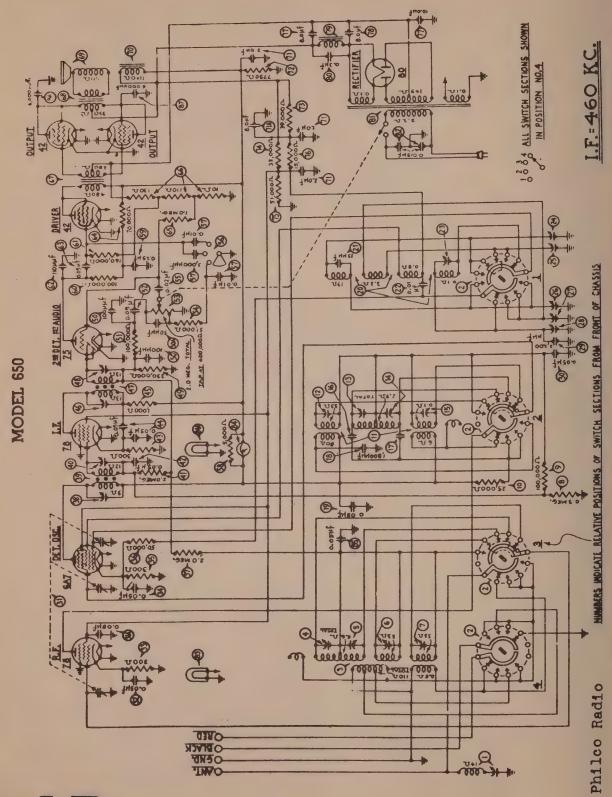
143



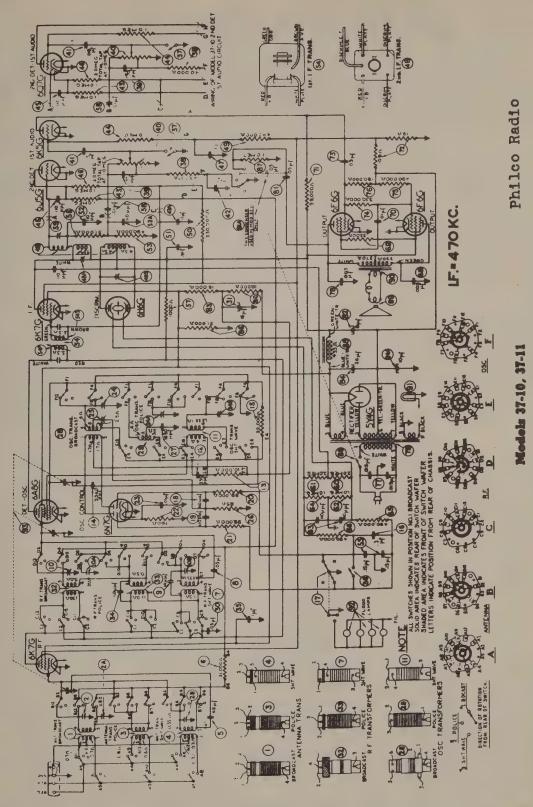


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Philco Radio



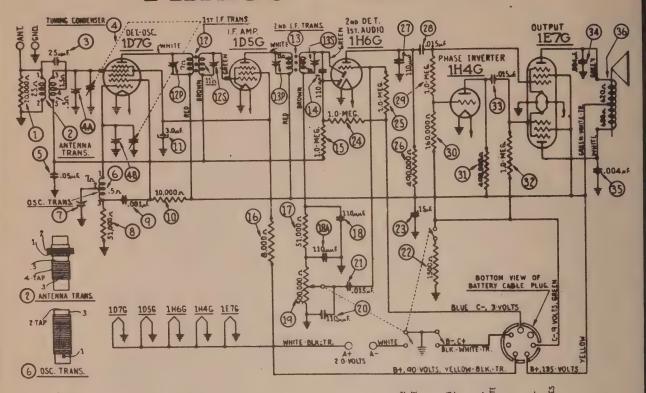
146

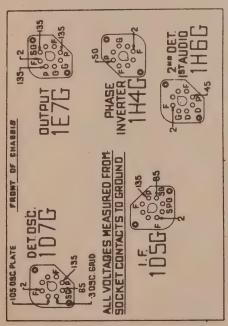


147

PHILCO

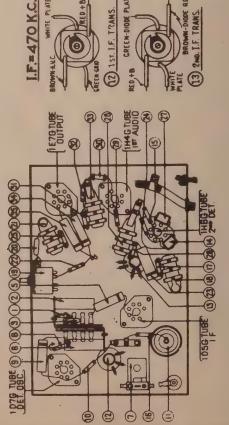
Model 37-33



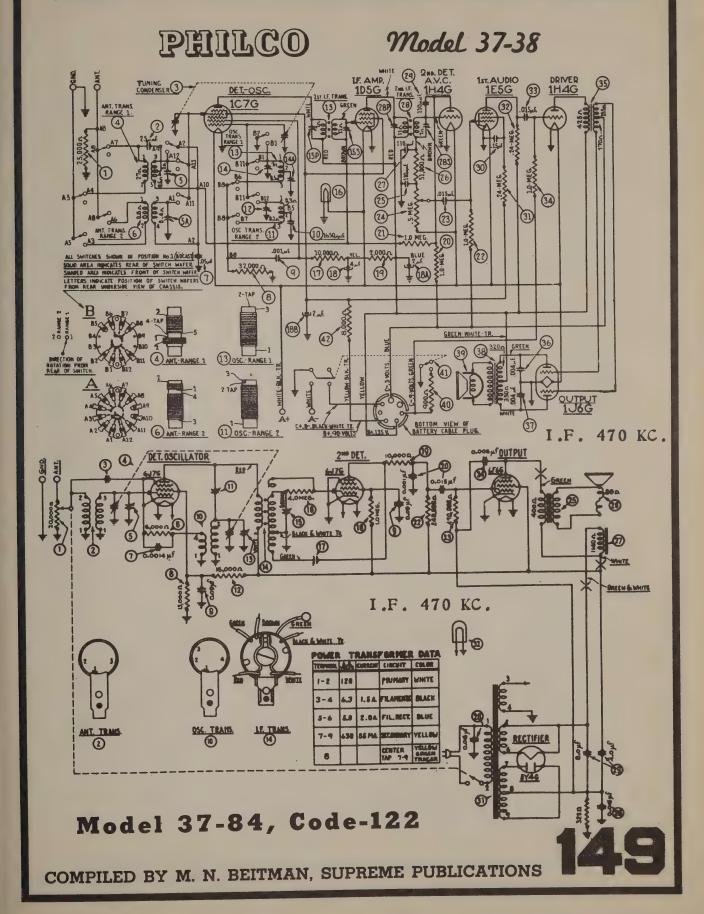


View of Sockets from Underside Chassis.

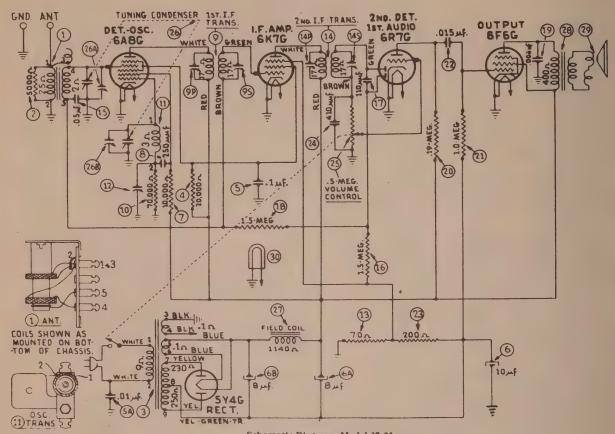
The voltages indicated by arrows were measured with a Philoo 25 Circuit Tester which contains a voltmeter having a resistance of 1000 ohms per volt. Volume Control at minimum.



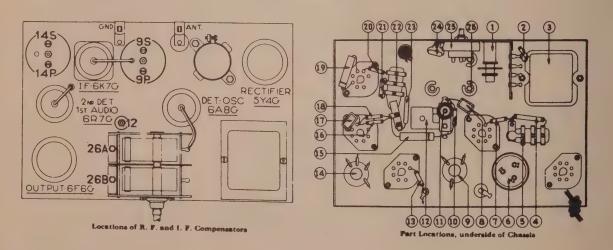
148



Philco Model 37-93

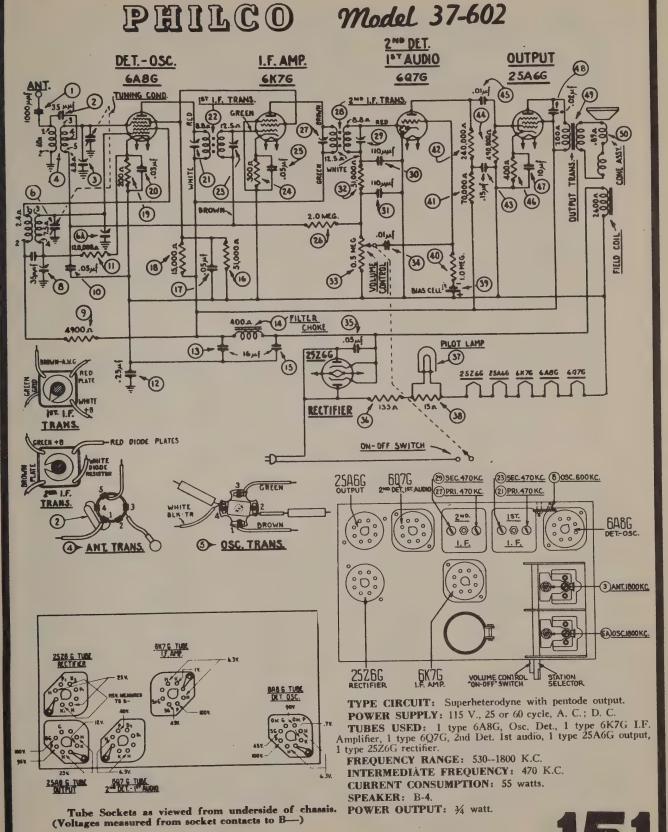


Schematic Diagram, Model 37-93



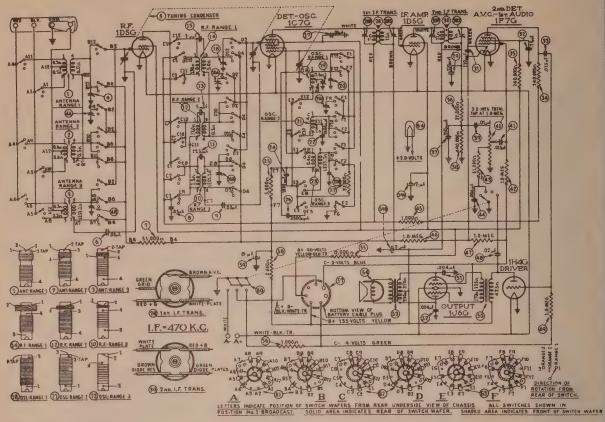
I.F. 470 KC.

150



COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

151



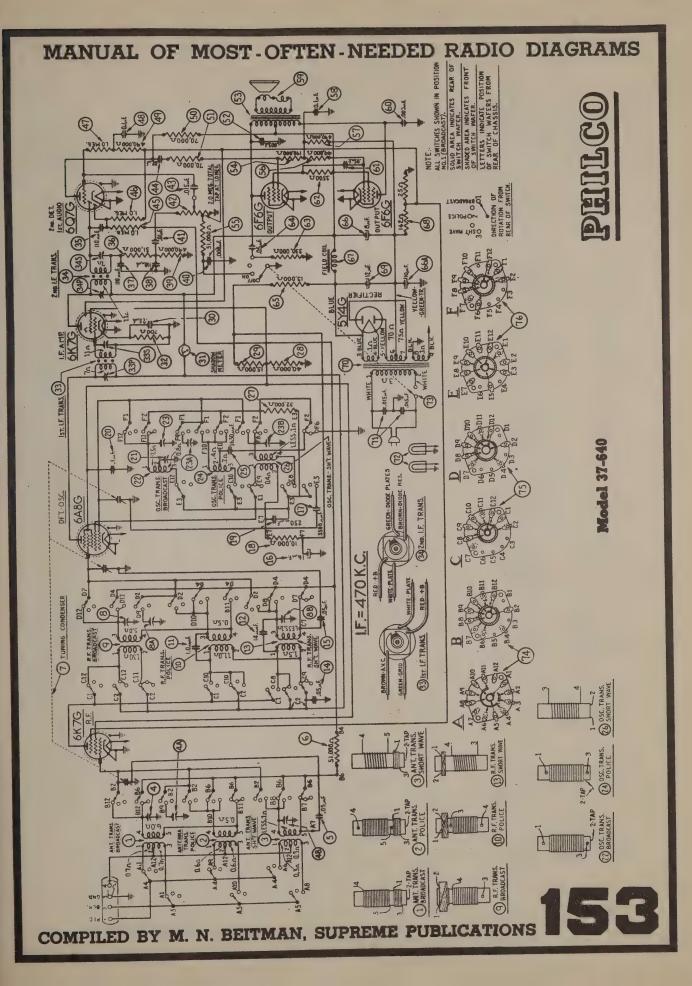
Philco Radio

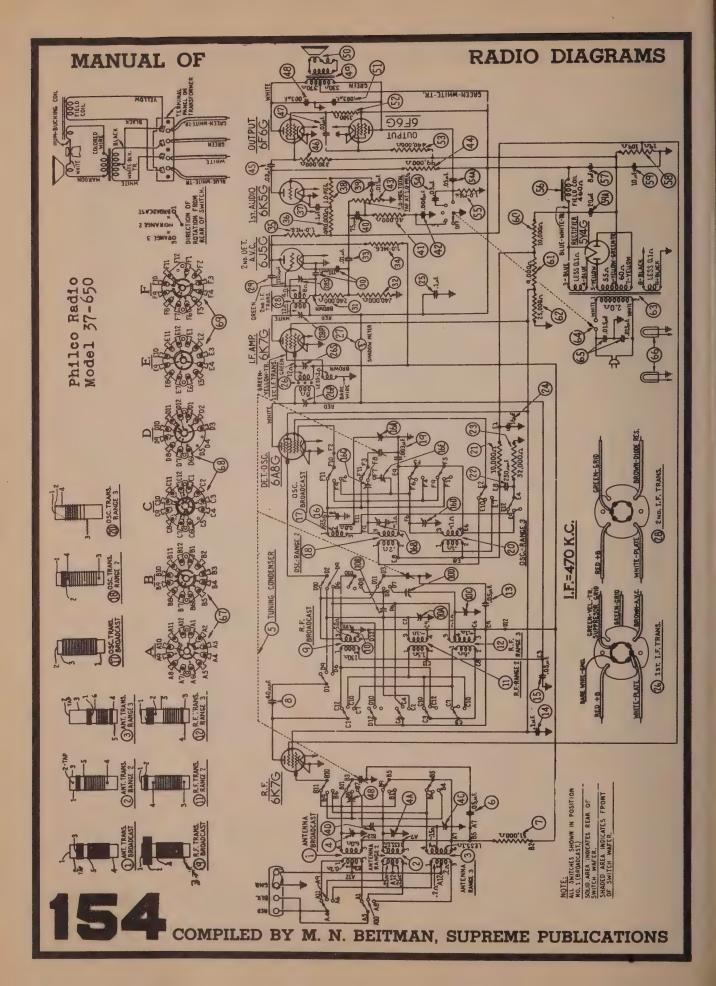
Schematic Diagram

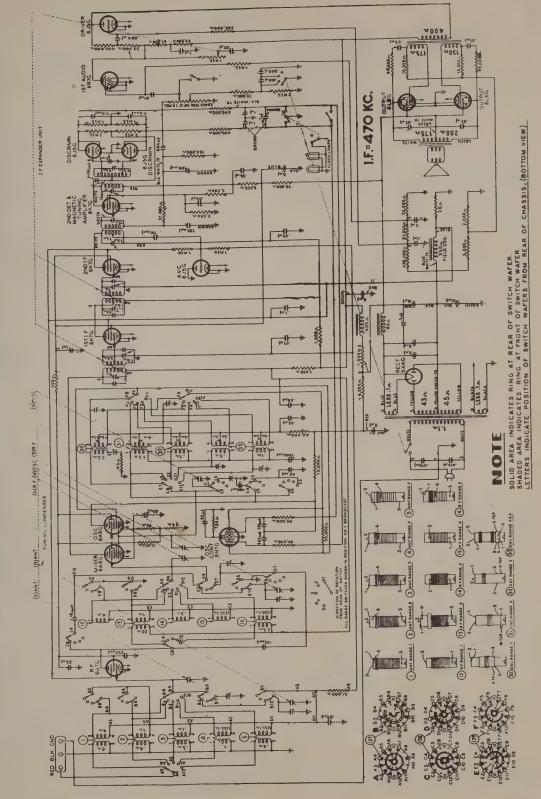
#### Replacement Parts — Model 37-623

| H.       |                                                                    | 973                      | ham.                            |                 | Selvana.    |                          |                      |
|----------|--------------------------------------------------------------------|--------------------------|---------------------------------|-----------------|-------------|--------------------------|----------------------|
| Sci      | nem. Description                                                   | Part No No               |                                 | Part No.        | No.         | Description              | Part No.             |
| 140      | Antenna Transformer (530-1720 K.C.).                               |                          | Resistor (1.000 ohms, 1/2 watt) | 33-210339       | Spring (Vo  | l. Shaft)                | . 28-4117            |
| 2        | Antenna Transformer (2.3 to 7.4 M.C.),                             |                          | Resistor (1 megohm, 1/2 watt).  | 33-510339       |             | orong)                   |                      |
| 3        | Antenna Transformer (7.35 to 22 M.C.)                              |                          | Resistor (1 megohm, 1/2 watt).  | 33-510339       |             | orong)                   |                      |
| 4        | Compensator (Three Sections)                                       |                          | Condenser (.02 mfd. Tubular).   | 30-4113         |             | e                        |                      |
| 5        | Tuning Condenser                                                   | 31-1818 49               | Resistor (1 megohm, 1/2 watt).  | 33-510339       |             | Shield                   |                      |
| 6        | Condenser (.05 mfd. Tubular)                                       | 30-4020 50               | Audio Input Transformer         | 32-7637         | Grommet     | Mtg. R. F. Unit          | . 27-4317            |
| 7        | Resistor (51,00 ohms, 1/2 watt)                                    | 33-351339 51             | · Condenser (.004 mfd. Tubular) | 30-4456         | Sleeve Mtg  | R. F. Unit               | . 28-2257<br>. W-729 |
| 8        | Condenser (.05 mfd. Tubular)                                       | 30-4020 52               | Condenser (.004 mfd. Tubular)   | 30-4456         | Screw Mtg   | R. F. Unittg. R. F. Unit | 28-3927              |
| 9        | Condenser (.05 mfd. Tubular)                                       | 30-4020 53<br>32-2126 54 | Output Transformer              | VD 17 26 2540   | Washer M    | tg. R. F. Unit           | 27-8339              |
| 10       | R. F. Transformer (7.35 to 22 M.C.).                               |                          | Cone and Voice Coil Assembly    |                 | Dubber M    | tg. Tuning Condenser     | 27-4325              |
| 11       | Condenser (17.5 mmfd. Mica)<br>R. F. Transformer (2.3 to 7.4 M.C.) |                          | Resistor (8,000 ohm, ½ watt).   |                 | Mtg Plate   | (Trans.)                 | 28-3808              |
| 12<br>13 | Condenser (5 mmfd. Mica                                            |                          | Resistor (1,000 ohms, ½ watt)   |                 | Mtg Space   | er (Trans.)              | 27-8228              |
| 14       | R. F. Transformer (530-1720 K.C.)                                  |                          | Cable Battery                   |                 | Mtg. Screv  | v (Trans.)               | . W-1635             |
| 15       | Condenser (Twist wire and lug)                                     |                          | Resistor (2,000 ohms, 1/2 watt) |                 | Terminal I  | Panel I. F. Unit         | . 38-7703            |
| 16       | Compensator (Three section)                                        | 31-1621 59               | Electrolytic Condenser (2, 2, 8 |                 | Cable Spea  | ker                      | . 41-3207            |
| 17       | Condenser (.05 mfd. Tubular)                                       | 30-4020 60               | Power and Tone Control Switc    | h 42-1207       | Mtg. Bolt   | (Chassis)                | . W-1495             |
| 18       | Oscillator Transformer (530-1720 K.C.)                             |                          | Range Switch (ANT)              | 42-1200         | Mtg. Rubb   | ers                      | . 5189               |
| 19       | Compensator (580 K.C.)                                             | 31-6056 62               | Range Switch (R.F.)             |                 | Mtg. Bush   | ing                      | . 27-4300            |
| 20       | Compensator (Three section)                                        | 31-6092 . 63             |                                 |                 | Knob        |                          | 27-4330              |
| 21       | Oscillator Transformer (2.3 to 7.4 M.C.)                           | 32-2121<br>31-6096       | Pilot Lamp Assembly.            |                 | Knob        |                          |                      |
| 22       | Condenser (1650 mmfd.)                                             |                          | Vernier Drive Assembly          | 21 1971         |             |                          |                      |
| 24       | Condenser (1.000 mmfd. Mica)                                       |                          | Dial                            |                 | "R" Batta   | ry                       |                      |
| 25       | Resistor (5,000 ohms, ½ watt)                                      | 33-250393                | Dial Hub                        | 28-7187         | "A" Batte   | ry (Wet)                 | . 172R               |
| 26       | Condenser (3,500 mmfd. Semifixed)                                  | 31-6097                  | Dial Clamp.,                    | 28-2837         | "A" Batte   | ry (Dry)                 | . 41-8011            |
| 27       | Resistor (32,000 ohms, ½ watt)                                     | 33-332339                | Dial Guard                      | 27-8324         | Ballast Las | mp                       | . IFI                |
| 28       | First I. F. Transformer                                            | 32-2100                  | Set Screw                       |                 | Besel Plate | and Frame                | . 40-5939            |
| 29       | Condenser (110 mmfd. Mica)                                         |                          | Gear (Dial)                     |                 | Gasket      |                          | . 27-8311            |
| 30       | Second I. F. Transformer                                           |                          | Thrust Spring                   | 28-8611         | Glass       |                          | 27-8298              |
| 31       | Condenser (110 mmfd. Mica)                                         | 30-1041                  | Thrust Washer                   | 28-3976         | Ring        |                          | . 28-3967            |
| 32       | Condenser (15 mfd. Bakelite)                                       |                          | C Washer                        | 28-3904         | Screws      |                          | . W-1044             |
| 33       | Condenser (.015 mfd. Tubular)<br>Resistor (240,000 ohms, ½ watt)   |                          | Gear (Drive)                    | 31-1884         |             |                          |                      |
| 35       | Resistor (240,000 ohms, ½ watt)                                    | 33_494330                | Mask Arm and Assembly           |                 |             | B CABINET                |                      |
| 36       | Resistor (32,000 ohms, ½ watt)                                     |                          | Shaft Coupling (Mask)           |                 | Baffle and  | Silk Assembly            | . 40-5970            |
| 37       | Condenser (110 mmfd. Mica)                                         |                          | Felt Washers                    | 27,8300         | Speaker-1   | KR17                     | . 36-1248            |
| 38       | Resistor (490.000 ohms, 1/2 watt)                                  |                          | Washer                          |                 |             |                          |                      |
| 39       | Condenser (.01 mfd. Tubular)                                       | 30-4124                  | Snap Fastener                   |                 |             | J CABINET                |                      |
| 40       | Volume Control.                                                    | 33-5158                  | Indicator Bracket and Lens Ass  | embly. 38-7912  |             | HR12                     |                      |
| 41       | Condenser (.015 mfd. Tubular)                                      |                          | Mask Guide and Lamp Support     | 38-7844         |             | Silk Assembly            |                      |
| 42       | Resistor (1 megohm, 1/2 watt)                                      | 33-510339                | Shaft and Index Plate (Range S  | witch), 42-1173 |             |                          |                      |
| 43       | Resistor (51,000 ohms, 1/2 watt)                                   | 33-351339                | Shaft (Volume Control)          | 38-8059         |             | ng                       |                      |
| 44       | Condenser (.006 mfd. Tubular)                                      | 30-4125                  | Retaining Clip (Vol. Shaft)     | 28-4394         | Speaker Bo  | olts                     | . W-1693             |
|          |                                                                    |                          |                                 |                 |             |                          |                      |

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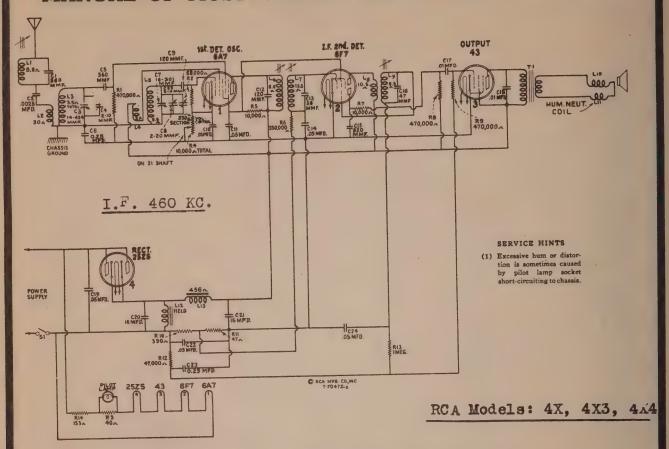




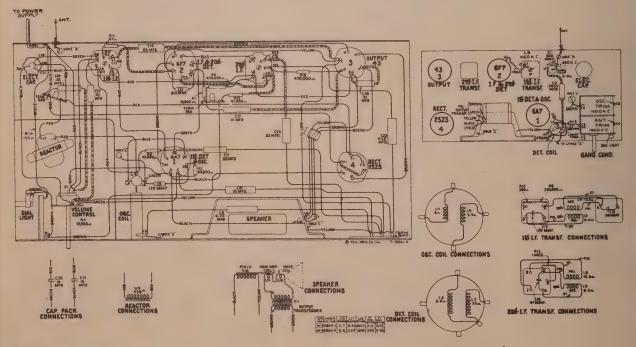
PHILCO

Model 38-116, Code 121

155

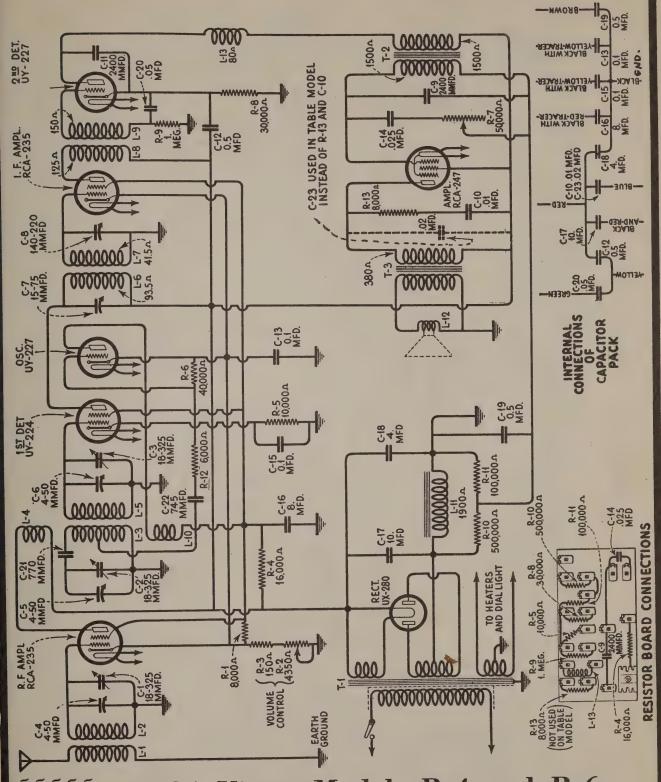


Schematic Circuit Diagram



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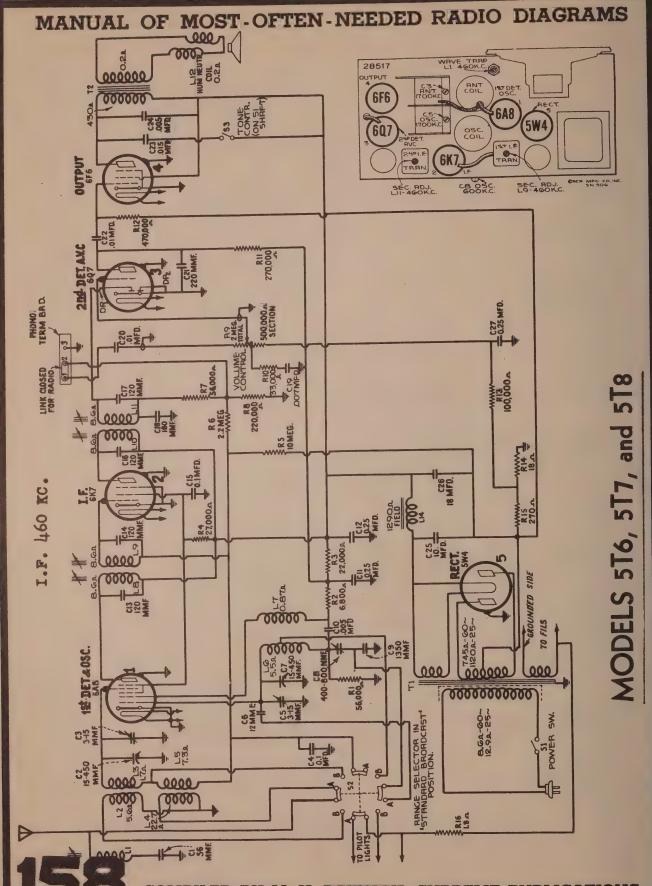
Chassis Wiring Diagram, Radiotron, Coil, and Trimmer Locations

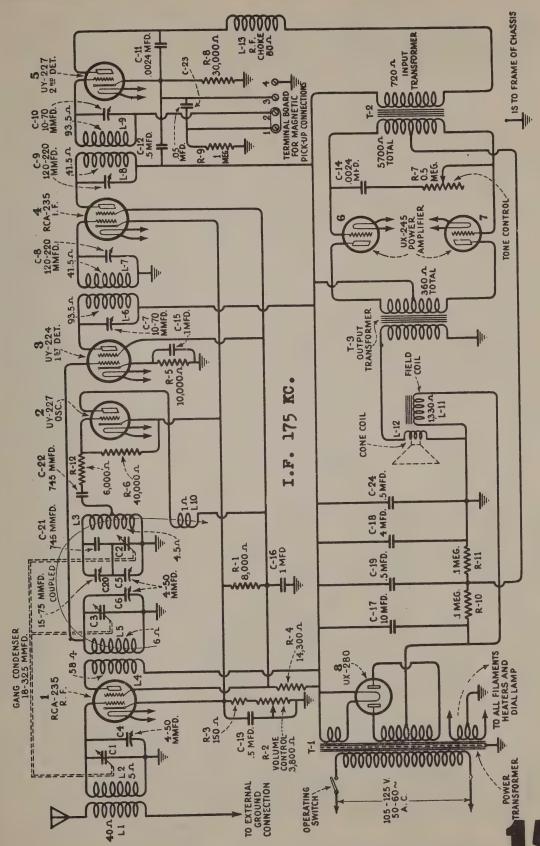


RCA Victor Models R-4 and R-6

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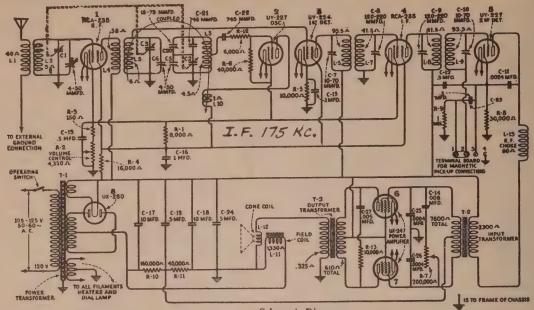
157





R.C.A. R-7, R-9

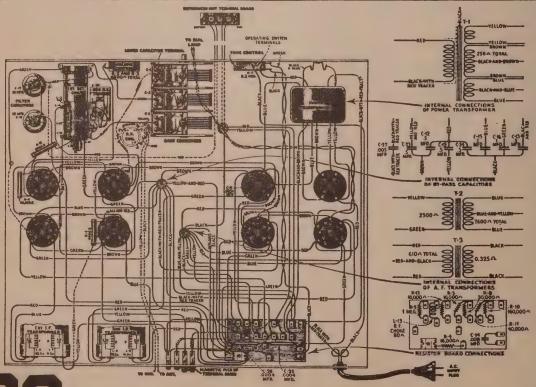
159



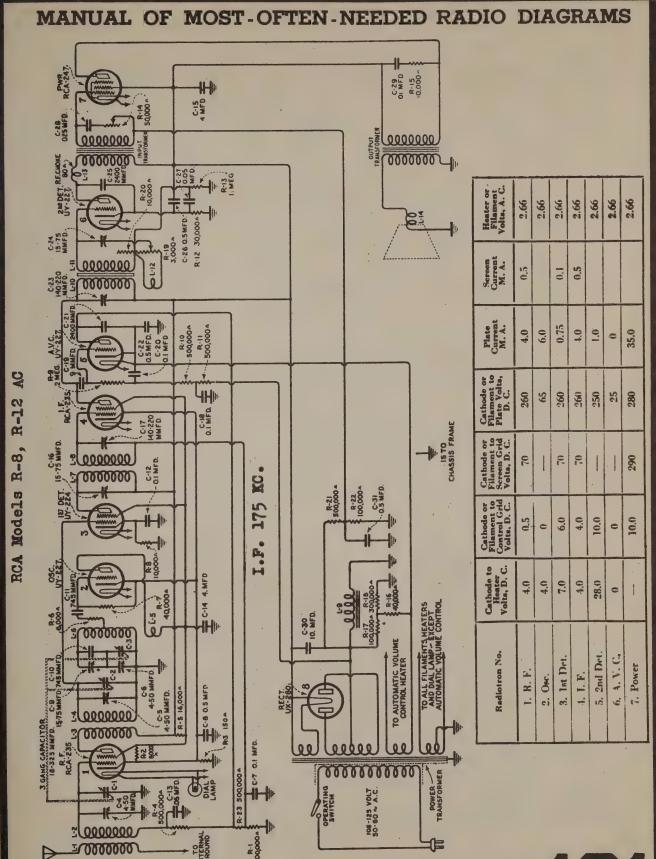
RCA Model R-7A

Schematic Diagram
SOCKET VOLTAGES—110 VOLT A. C. LINE

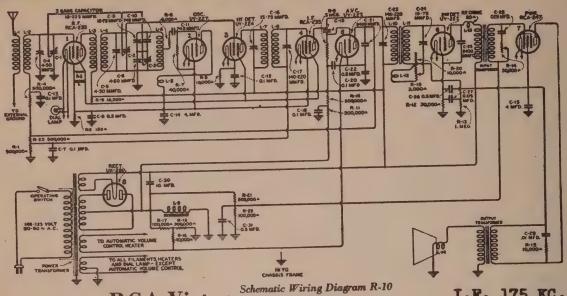
| Radiotron<br>No. | Cathode<br>to Heater<br>Volts<br>D. C. | Cuthodo or<br>Filament to<br>Control Grid<br>Volta D. C. | Cathode<br>to Screen<br>Grid Volts<br>D. C. | Cathode<br>or Filament<br>to Plate<br>Volts D.C. | Plate<br>Current<br>M. A. | Heater or<br>Filament<br>Velta<br>A. C. | Radiotron<br>No. | Cathode<br>to Heater<br>Volta<br>D. C. | Cathode or<br>Filament to<br>Control Grid<br>Volts D. C. | Cathede<br>te Screen<br>Grid Velts<br>D. C. | Cathode<br>or Filament<br>to Plate<br>Volts D.C. | Plate<br>Current<br>M. A. | Heater or<br>Filament<br>Volts<br>A. C. |
|------------------|----------------------------------------|----------------------------------------------------------|---------------------------------------------|--------------------------------------------------|---------------------------|-----------------------------------------|------------------|----------------------------------------|----------------------------------------------------------|---------------------------------------------|--------------------------------------------------|---------------------------|-----------------------------------------|
|                  | VOLUME CONTROL AT MINIMUM              |                                                          |                                             |                                                  |                           |                                         |                  | VOLU                                   | ME CONT                                                  | TROL AT                                     | MAXIMU                                           | J <b>M</b>                |                                         |
| 1                | 38                                     | 35                                                       | 50                                          | 200                                              | .0                        | 2.2                                     | I                | 2.0                                    | 2.5                                                      | 60                                          | 235                                              | 3.5                       | 2.2                                     |
| 2                | 38                                     | 0                                                        | -                                           | 50                                               | 3.5                       | 2.2                                     | 2                | 2.0                                    | .0                                                       |                                             | 50                                               | 4.5                       | 2.2                                     |
| 3                | 7                                      | 6                                                        | 80                                          | 235                                              | 0.5                       | 2.2                                     | 3                | 4.0                                    | 4.0                                                      | 55                                          | 230                                              | 0.5                       | 2.2                                     |
| 4                | 38                                     | 35                                                       | 50                                          | 200                                              | .0                        | 2.2                                     | 4                | 2.0                                    | 2.5                                                      | 58                                          | 235                                              | 3.5                       | 2.2                                     |
| 5                | 22                                     | 8                                                        |                                             | 210                                              | 0.7                       | 2.2                                     | 5                | 22                                     | 8                                                        |                                             | 210                                              | 0.7                       | 2.2                                     |
| 6                |                                        | 12                                                       | 225                                         | 220                                              | 30                        | 2.2                                     | 6                |                                        | 12                                                       | 225                                         | 220                                              | 30                        | 2.2                                     |
| 7                |                                        | 12                                                       | 225                                         | 220                                              | 30                        | 2.2                                     | 7                | -                                      | 12                                                       | 225                                         | 220                                              | 30                        | 2.2                                     |



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**RCA Victor** 

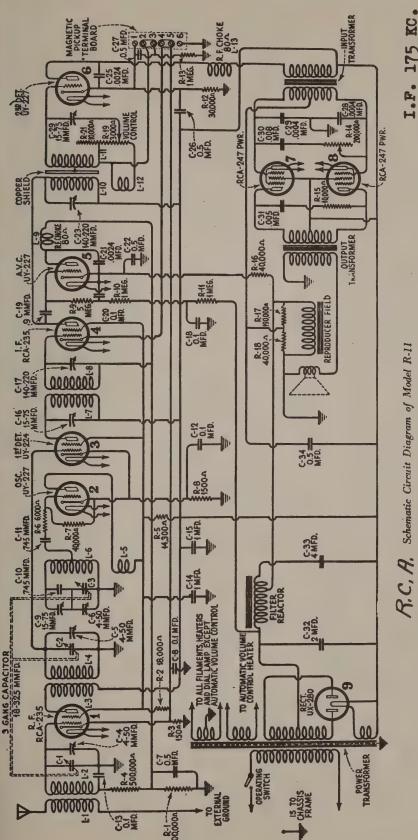
\*Not true reading due to resistance in circuit.

I.F. 175 KC.

OF CAPACITOR PACK

| Radiotron<br>. No. | Cathode to<br>Heater Volts,<br>D. C. | Cathode or<br>Filament to<br>Control Grid<br>Volts, D. C. | Cathode or<br>Filament to<br>Screen Grid<br>Volts, D. C. | Cathode or<br>Filament to<br>Plate Volts,<br>D. C. | Plate Current<br>M. A. | Serson<br>Current<br>M. A. | Heater or<br>Filament<br>Volts, A. C. |
|--------------------|--------------------------------------|-----------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------|------------------------|----------------------------|---------------------------------------|
| 1                  | 2                                    | *0.1                                                      | 75                                                       | 210                                                | 5.0                    | 0.5                        | 2.2                                   |
| 1                  | 0                                    | 0                                                         |                                                          | 60                                                 | 5.0                    | _                          | 2.2                                   |
| 2                  | 0                                    | 7.0                                                       | 70                                                       | 205                                                | 0.5                    | 0.1                        | 2.2                                   |
| 3                  | 7                                    |                                                           | 75                                                       | 210                                                | 5.0                    | 0.5                        | 2.2                                   |
| 4                  | 2                                    | *0.1                                                      | 15                                                       |                                                    | 0.0                    |                            | 2.2                                   |
| -5                 | 0 -                                  | 0                                                         |                                                          | 30                                                 | U                      |                            | 2.2                                   |
| 6                  | 20                                   | *8.0                                                      | 1                                                        | 185                                                | 0.5                    |                            |                                       |
| 7                  |                                      | 10                                                        | 210                                                      | 210                                                | 25                     | _                          | 2.2                                   |

R 19 . R-20 3,000# 10,000#



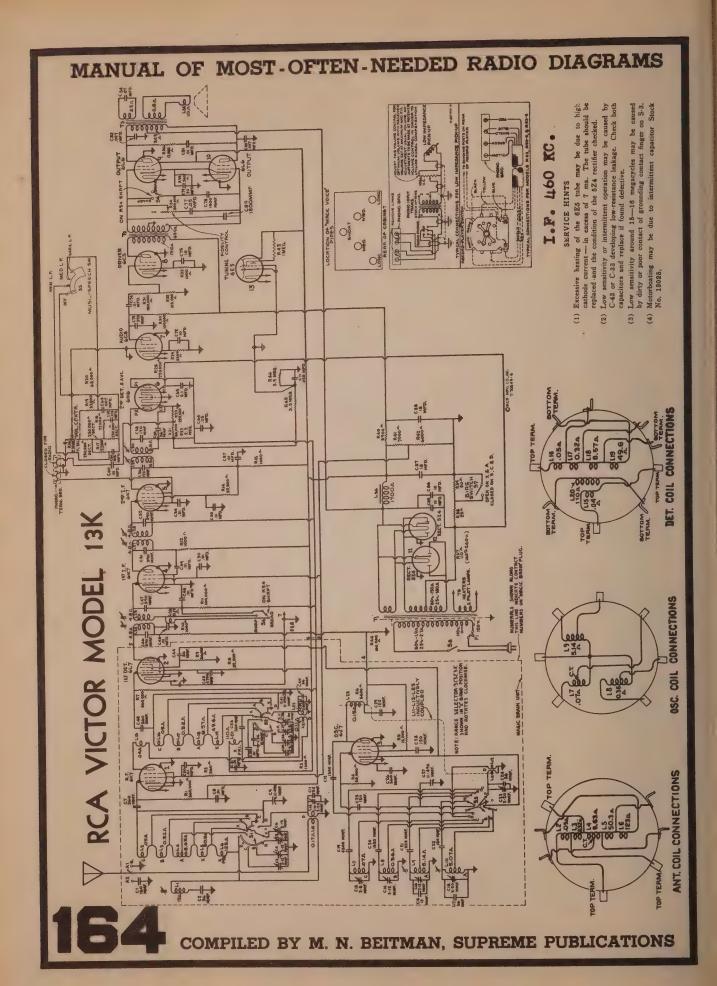
| R-11      |
|-----------|
| Model     |
| fo        |
| Diagram   |
| Circuit   |
| Schematic |
| ~         |
| E.        |
| - >       |
| <b>U</b>  |
| 3-6       |
| K.        |

Radio

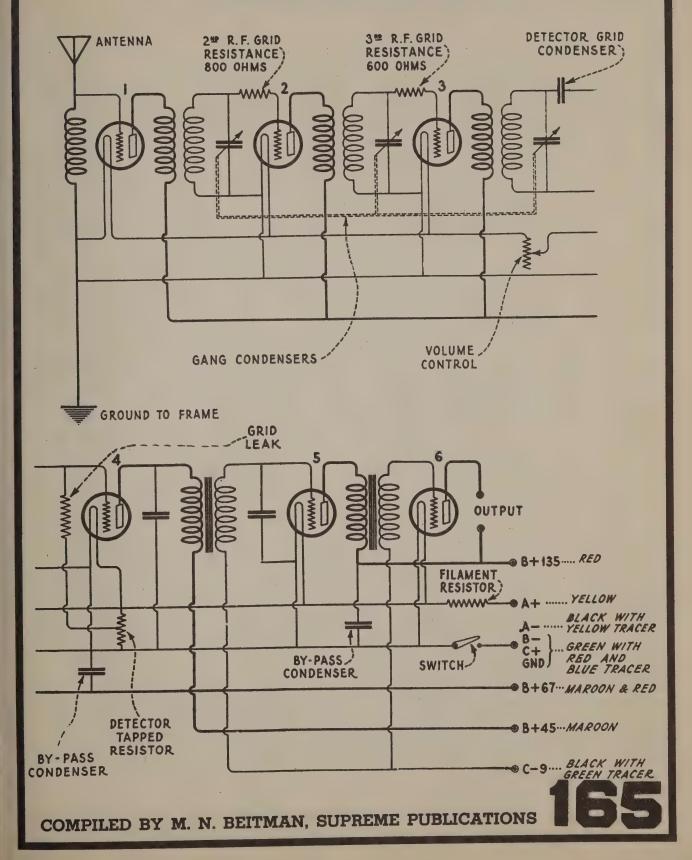
| Heater or<br>Filament<br>Volts, A. C.                     | 2.2  | 2.2 | 2.2 | 2.2  | 2.2 | 2.2  | 2.2 | 2.2 |
|-----------------------------------------------------------|------|-----|-----|------|-----|------|-----|-----|
| Screen<br>Current<br>M. A.                                | 0.5  | -   | 0.1 | 0.5  | 1   |      |     | 1   |
| Plate Current<br>M. A.                                    | 5.0  | 5.0 | 0.5 | 5.0  | 0   | 0.5  | 25  | 25  |
| Cathode or<br>Filament to<br>Plate Volts,<br>D. C.        | 205  | 09  | 200 | 205  | 25  | 180  | 205 | 205 |
| Cathode or<br>Filament to<br>Screen Grid<br>Volts, D. C.  | 75   | 1   | 70  | 75   |     | 1    | 210 | 210 |
| Cathode or<br>Filament to<br>Control Grid<br>Volts, D. C. | *0.1 | 0   | 7.0 | *0.1 | 0   | *8.0 | 10  | 10  |
| Cathode to<br>Heater Volts<br>D. C.                       | 2    | 8   | 7   | 2    | 0   | 20   | ı   | ı   |
| tron No.                                                  | 1    | 2   | 3   | 4    | 5   | 9    | 7   | 8   |

Not true reading due to resistance in circuit.

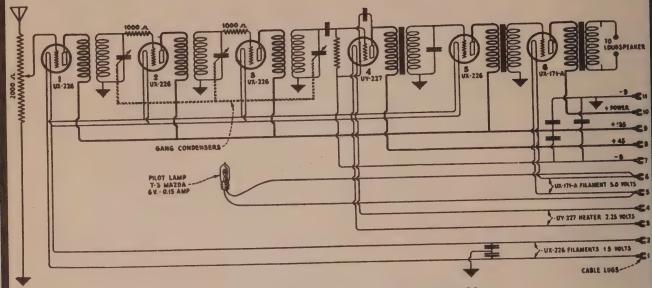
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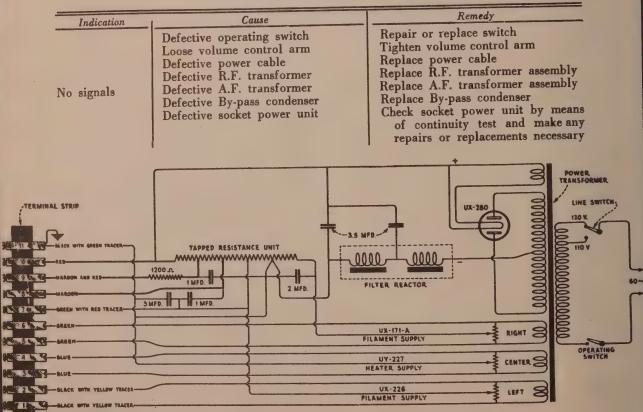
#### RCA RADIOLA 16



## MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS RCA RADIOLA 17

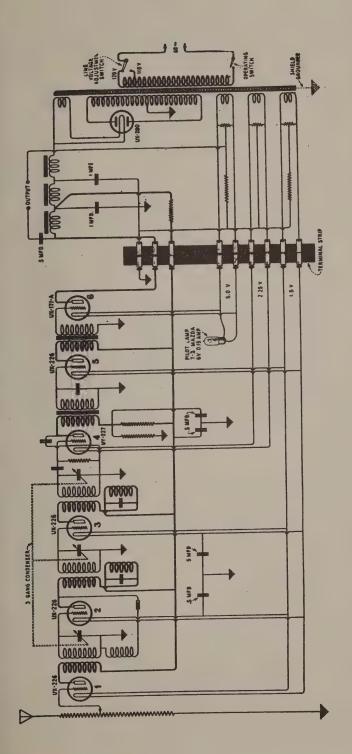


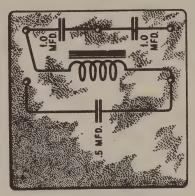
Schematic circuit diagram of receiver assembly.



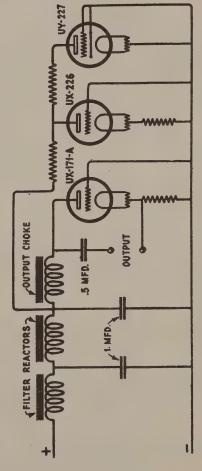
#### RCA RADIOLA 18

(105-125 Volta, 50-60 Cycle A.C.)



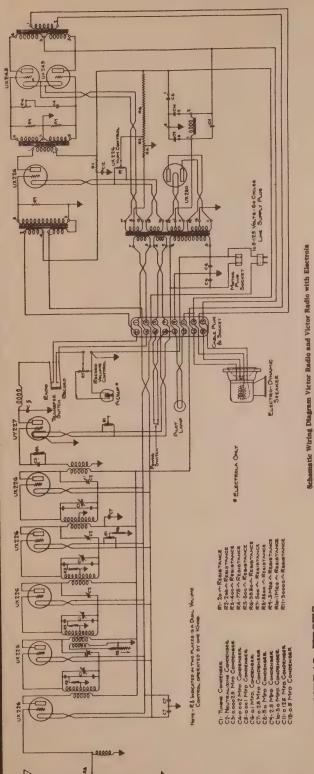


Internal connections of condensers.



Schematic circuit illustrating method of obtaining grid and plate voltages.

#### MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS R-32, R-52, RE-45 and RE-75



noise, static, and power line disturbances should not be confused with noise which is set up within the receiver. This latter condition may be caused by 4. NOISY REPRODUCTION-Station carrier any one of the following:

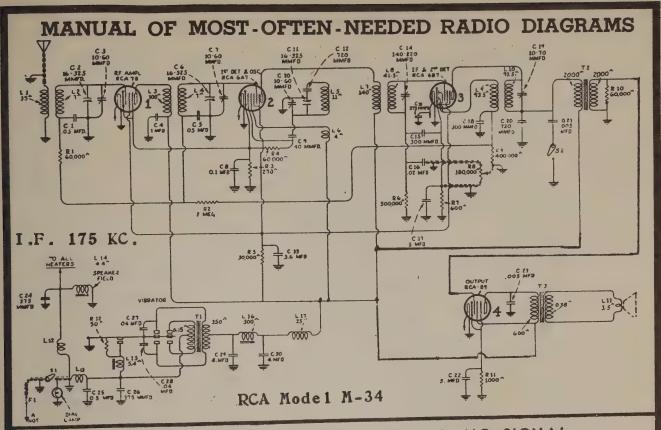
Internal Connections of Filter Condenser Bank

# GENERAL TESTS

EXCESSIVE HUM-This condition can be caused

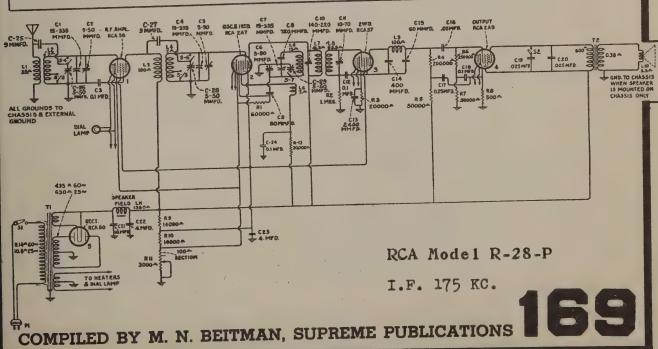
HOWL-Microphonic howl can be traced to:

be caused by any of the following

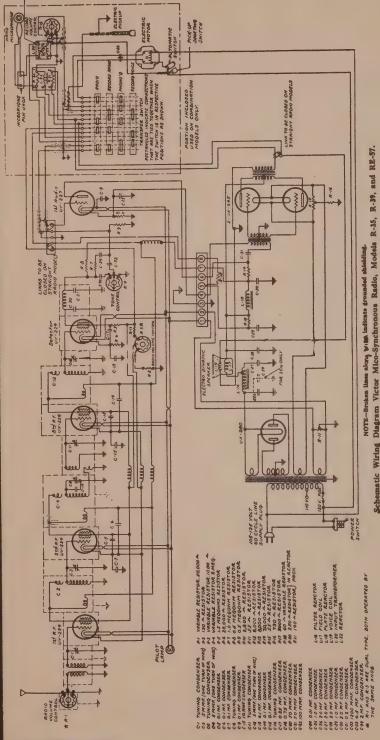


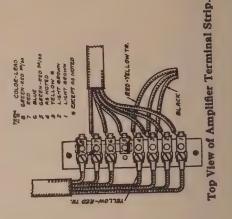
#### MAXIMUM VOLUME CONTROL SETTING-NO SIGNAL

| Radiotron No.                        | Cathode to<br>Control Grid,<br>Volta        | Cathode to<br>Screen Grid,<br>Volts | Cathode to<br>Plate, Volts | Plate Current,<br>M. A. | Heater Volts |  |  |
|--------------------------------------|---------------------------------------------|-------------------------------------|----------------------------|-------------------------|--------------|--|--|
|                                      | 3.0                                         | 95                                  | 250                        | 5.0                     | 2.33         |  |  |
| 1. RCA-58 R. F. Amplifier            |                                             | 95                                  | 250                        | 3.0                     | 2.33         |  |  |
| 2. RCA-2A7 First Detector Oscillator | 3.0                                         |                                     | 170                        | 0.3                     | 2.33         |  |  |
| 3. RCA-57 Second Detector            | 6.0                                         | 89                                  |                            |                         | 2.33         |  |  |
|                                      | 18.0                                        | 235                                 | 220                        | 32.0                    |              |  |  |
| 4. RCA-2A5 Power Amplifier           | 275 Volte PLATE TO PLATE—60 M. A. TOTAL 4.8 |                                     |                            |                         |              |  |  |
| 5. RCA-80 Rectifier                  | TOTAL CATHODE CURRENT—11 M. A.              |                                     |                            |                         |              |  |  |
|                                      | TOTAL CATHOD                                | E CURRENIII                         | IVE. CL.                   |                         |              |  |  |



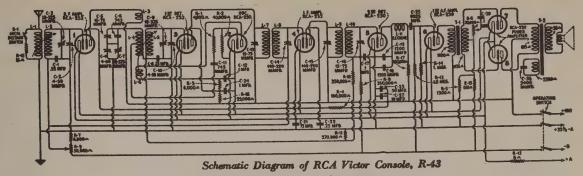
VICTOR MICRO-SYNCHRONOUS RADIO R-35, R-39, RE-57





| APPROXIMATE<br>RESISTANCE<br>(OHMETER) | 300 Ohms 1,500 Ohms 8,000 Ohms 8,000 Ohms 70,000 Ohms 70,000 Ohms 7,000 Ohms 5,500 Ohms 14,000 Ohms 14,000 Ohms 6,500 Ohms 6,500 Ohms 165 Ohms 6 Ohms 6 Ohms 6 Ohms                                                                                                                                                                                                                                                                                    |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| APPROXIMATE<br>VOLTAGE<br>(10 V SCALE) | 8.4 Volts  3.4 Volts  3.4 Volts  5. Volts  4.0 Volts  6.4 Volts  7.4 Volts  8.4 Volts  8.8 Volts  8.8 Volts  8.4 Volts  8.8 Volts  8.4 Volts  9.9 Volts                                                                                                     |
| PART                                   | Tapped Choke Speaker Field 8900 Ohm Resistor 10,000 Ohm Resistor Figure Choke Prints Choke Prints Choke Prints Choke Prints Choke Prints Choke Prints Choke Transformer One-half Secondary Interetage Transformer One-half Frintsry Output Transformer One-half Printsry Output Transformer One-half Printsry Output Transformer One-half Printsry Coul Frintsry Power Transformer High Voltage Secondary Output Transformer UX-289 Filament Secondary |
| TEST BETWEEN TERMINALS                 | F and 7 of Terminal Board 4 and 6 of Terminal Board Brown-Grey Resistor Green-Red Resistor Green-Red Resistor Green-Red Resistor 1 of Condenser Bank and 4 of Terminal Strip UX-345 Grida to Chasels UX-345 Flates and No. 3 of Condenser Bank and 15 of Condenser Bank I and 15 of Terminal Board F and P                                                                                                                                             |

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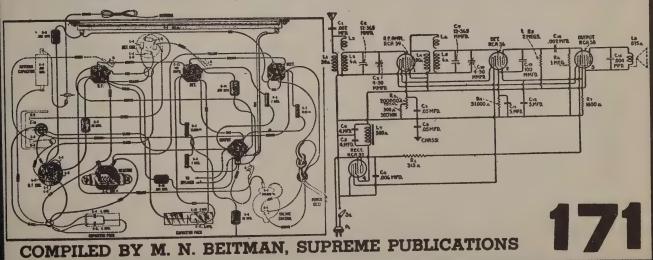
|          |                                   | VOLUME CONT                      | ROL AT MINIM               | UM                  |                |
|----------|-----------------------------------|----------------------------------|----------------------------|---------------------|----------------|
| Tube No. | Filament to Control<br>Grid Volts | Filament to Screen<br>Grid Volts | Filament to Plate<br>Volts | Plate Current M. A. | Filament Volts |
| 1        | 22                                | \$5                              | 155                        | 0                   | 2.0            |
| 2        |                                   |                                  | 50                         | 3.0                 | 2.0            |
| 3        | 0,5                               | 65                               | 150                        | 0.5                 | 2.0            |
| 4        | 22                                | 55                               | 155                        | 0                   | 2.0            |
| 5        | 5,0                               | tuello .                         | 90                         | .0                  | 2.0            |
| 6        | 2.0                               | _                                | 150                        | 2.5                 | 2.0            |
| 7        | 15.0                              | _                                | 150                        | 0.5                 | 2.0            |
| 8        | 15.0                              |                                  | 150                        | 0,5                 | 2.0            |
|          |                                   | VOLUME CONT                      | ROL AT MAXIM               | IUM                 |                |
| 1        | 1.5                               | 45                               | 150                        | 2.5                 | 2.0            |
| 2        | -                                 |                                  | 50                         | 3.0                 | 2.0            |
| 3        | 0.5                               | 60                               | 150                        | 0.5                 | 2.0            |
| 4        | 1.5                               | 45                               | 150                        | 2.5                 | 2.0            |
| 5        | 5.0                               |                                  | 90                         | 0                   | 2.0            |
| 6        | 2.0                               |                                  | 150                        | 2.5                 | 2,0            |
| 7        | 15.0                              | entingly .                       | 150                        | 0.5                 | 2.0            |
| 9        | 15.0                              |                                  | 150                        | 0.5                 | 2.0            |

## RCA Victor R-17-M

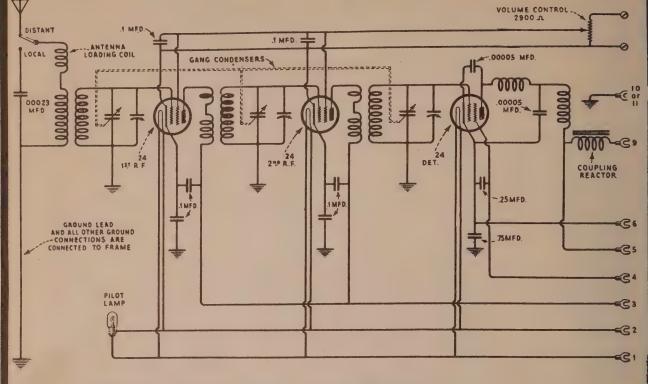
| Radiotron No.       | Cathode or Fila-<br>ment to Control<br>Grid Volts | Cathode or Fila-<br>ment to Screen<br>Grid Volts | Cathode or<br>Filament to<br>Plate Volts | Plate Current<br>M. A. | Filament or<br>Heater Volts |
|---------------------|---------------------------------------------------|--------------------------------------------------|------------------------------------------|------------------------|-----------------------------|
| 1. RCA-39 R. F.     | 3.0                                               | 105.0                                            | 105                                      | 7.0                    | 6.0                         |
| 2. RCA-36 Detector  | *0.75                                             | 11.0                                             | *60                                      | 0.025                  | 6.0                         |
| 3. RCA-38 Output    | 11.0                                              | 100.0                                            | 95                                       | 5.0                    | 6.0                         |
| 4. RCA-37 Rectifier |                                                   |                                                  | 115                                      | 15.0                   | 6.0                         |

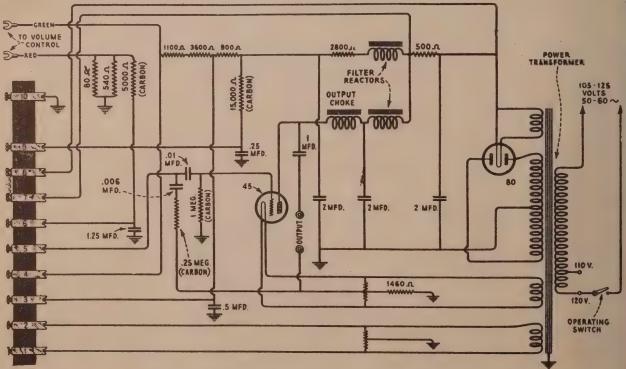
\*Impossible to measure on ordinary voltmeter.

All Voltages on D. C. will be slightly lower



#### RCA RADIOLAS 44 and 46

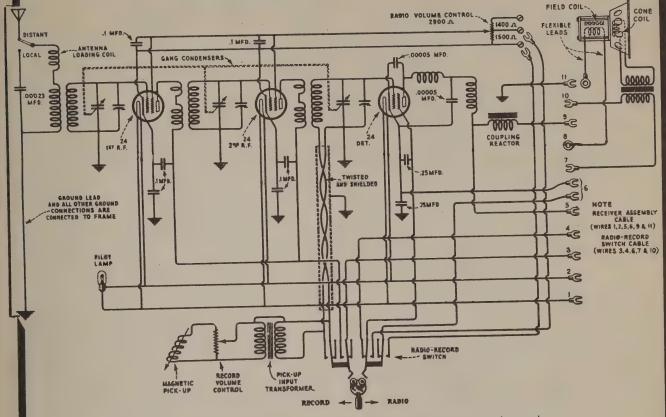




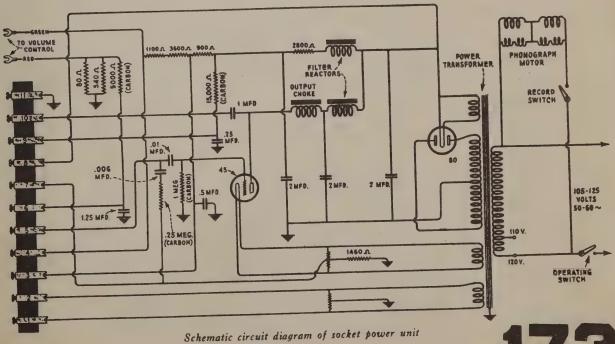
COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

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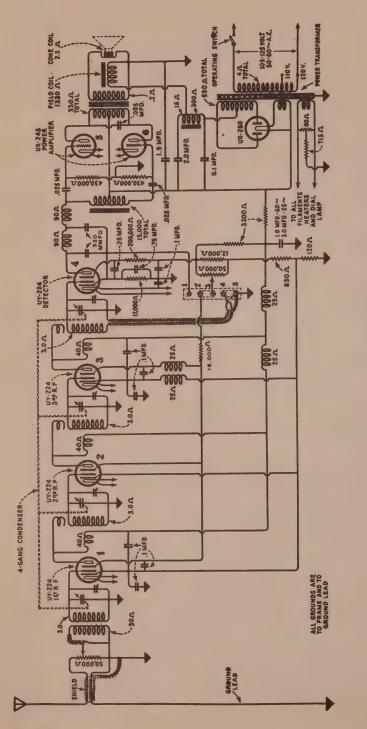
Radiola

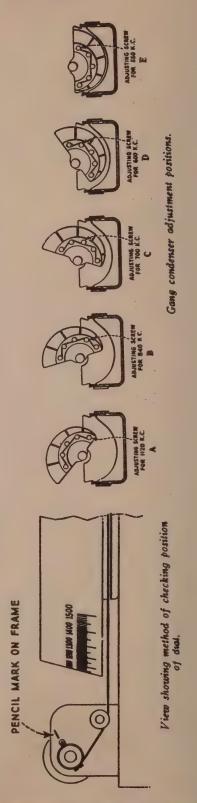


Schematic circuit diagram of receiver, phonograph pick-up and reproducer

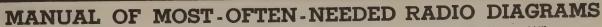


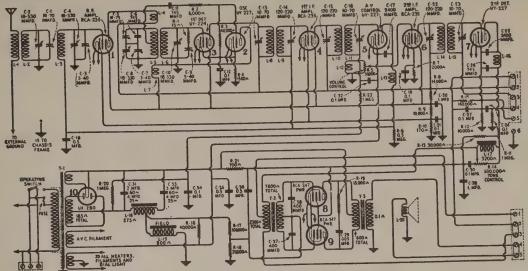
### RCA RADIOLA 48





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RCA Models R-50, R-55

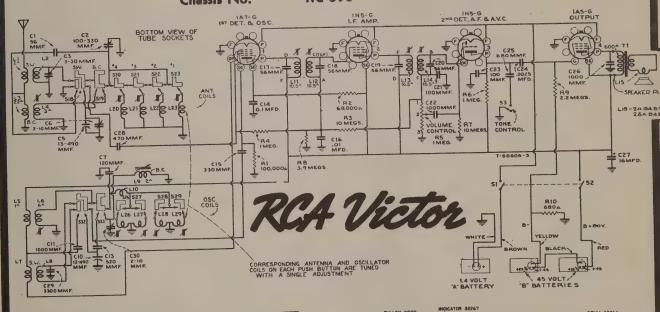
I.F. 175 KC.

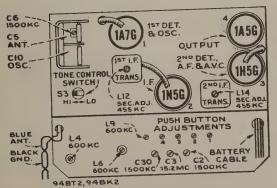
#### MODELS 94BK2 and

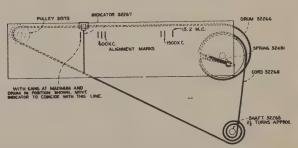
Chassis No.

**RC-390** 

**RC-390** 





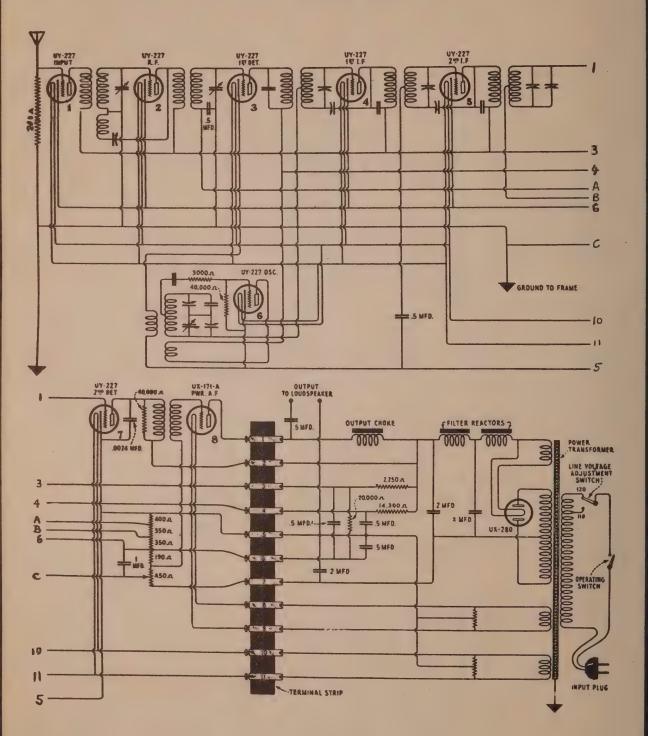


Dial Drive Hookup and Alignment Marks

Tube and Trimmer Locations

## MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS RCA RADIOLA 60

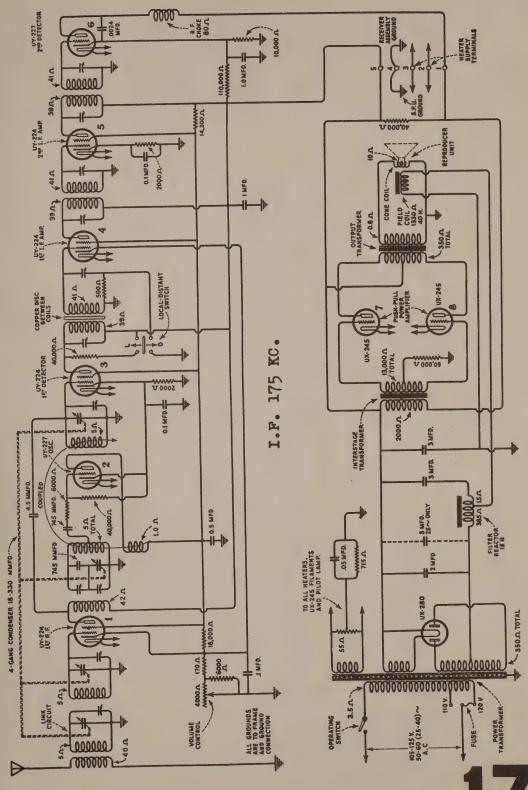
(105-125 Volts. 50-60 Cycle A. C.)

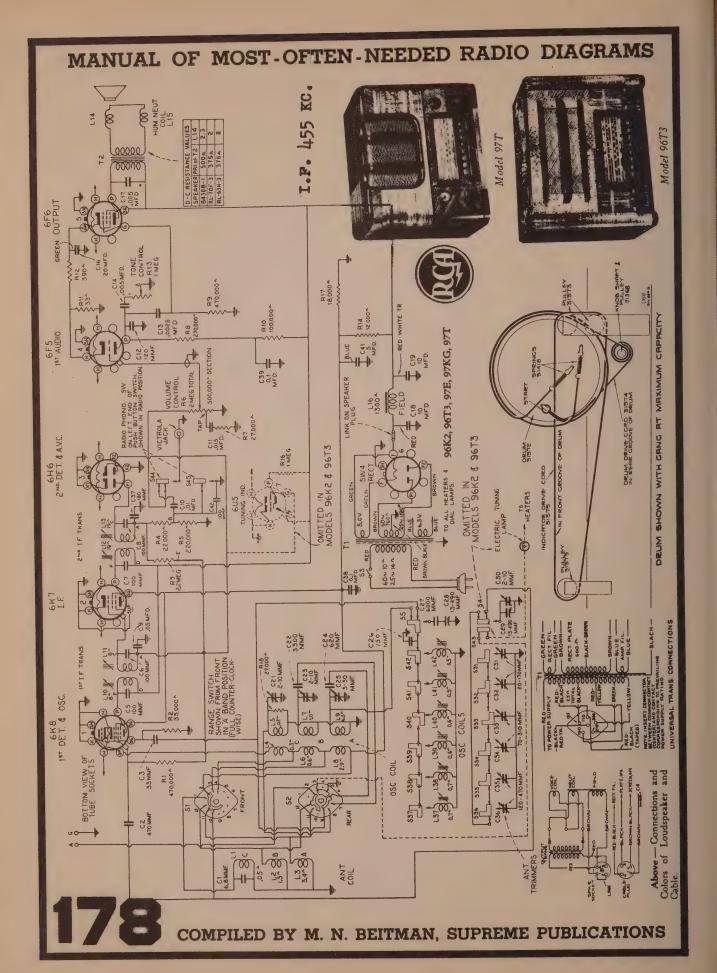


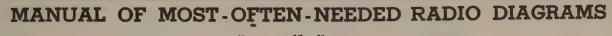
I.F. 180 KC.

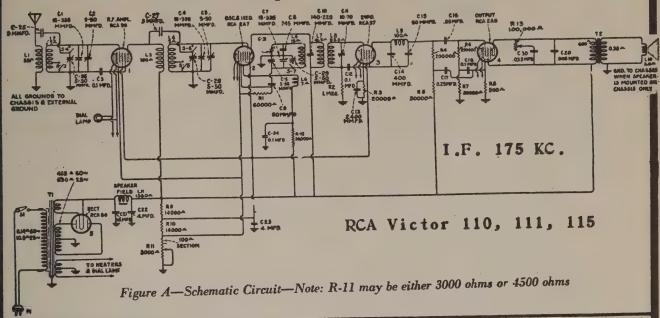
176

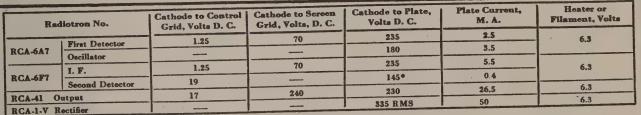
RCA Radiola 80, 82, 86

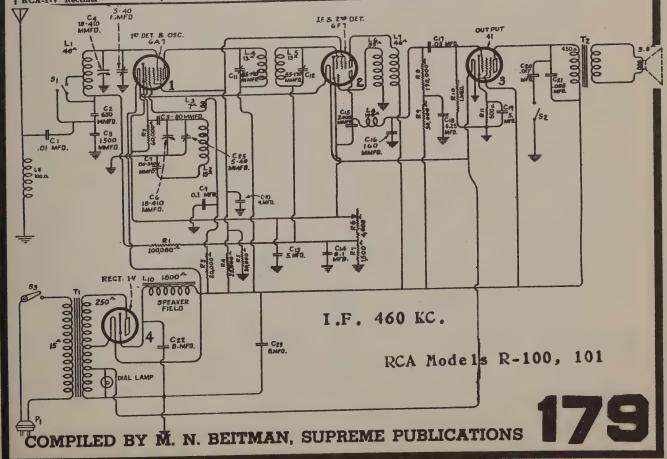


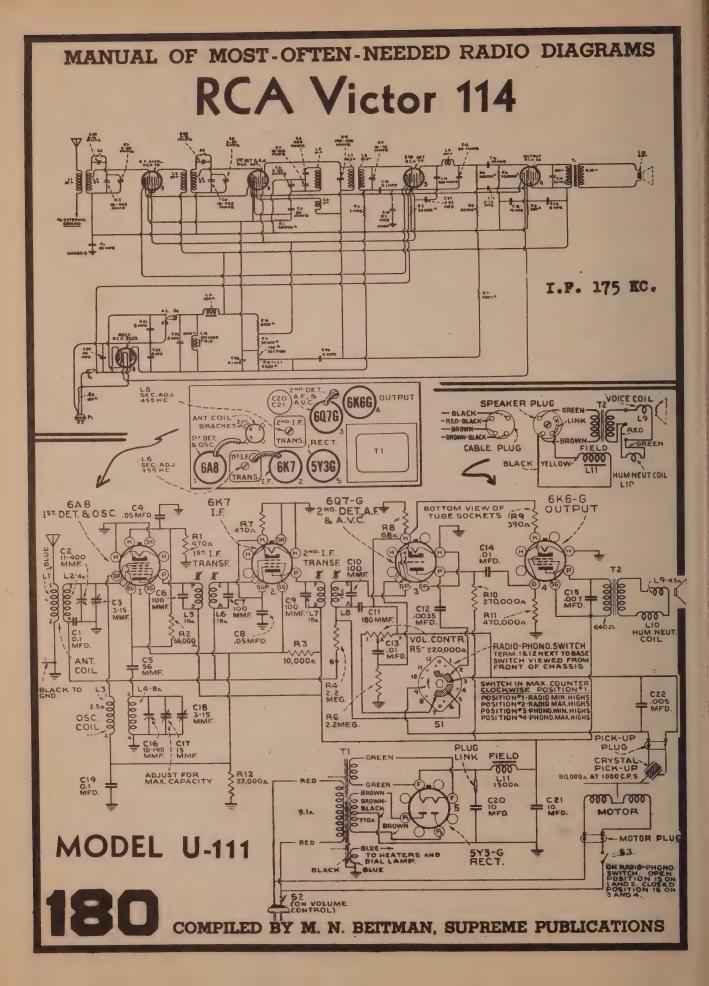




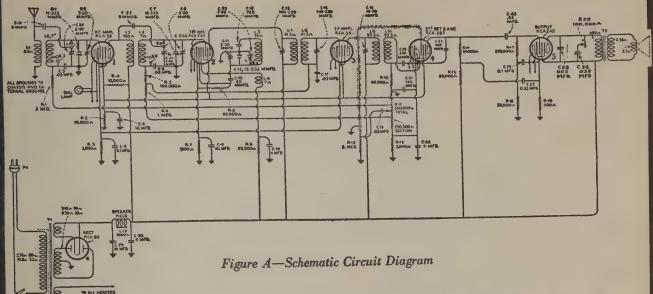








RCA Victor 120



I.F. 175 KC.

## RCA Victor

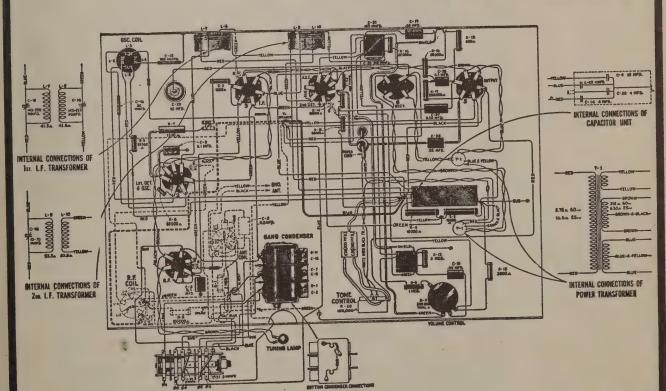
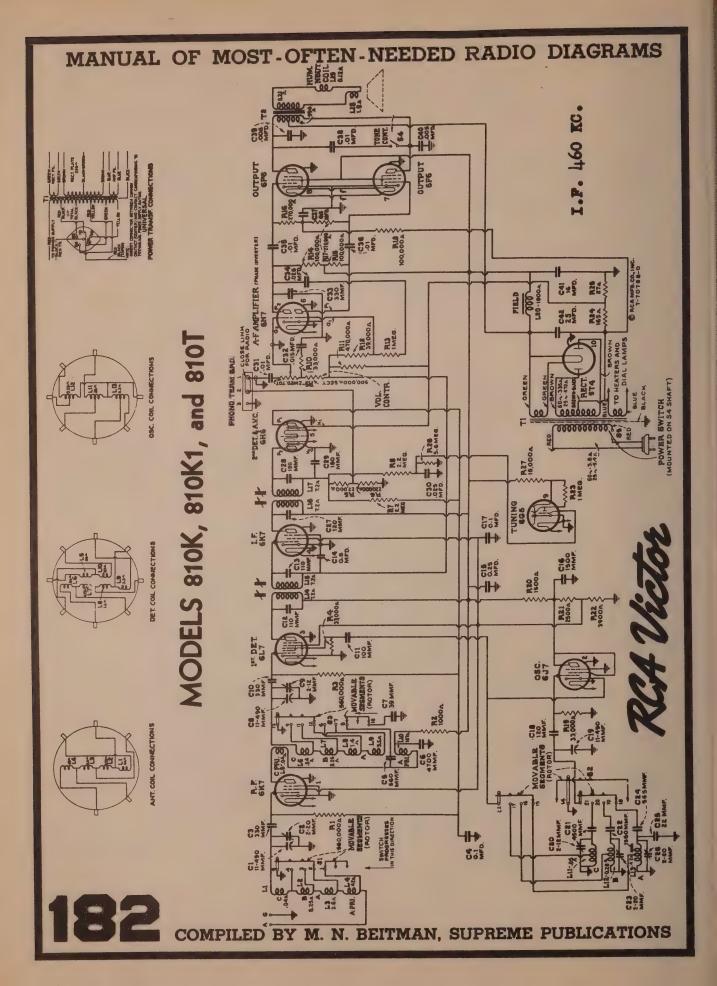
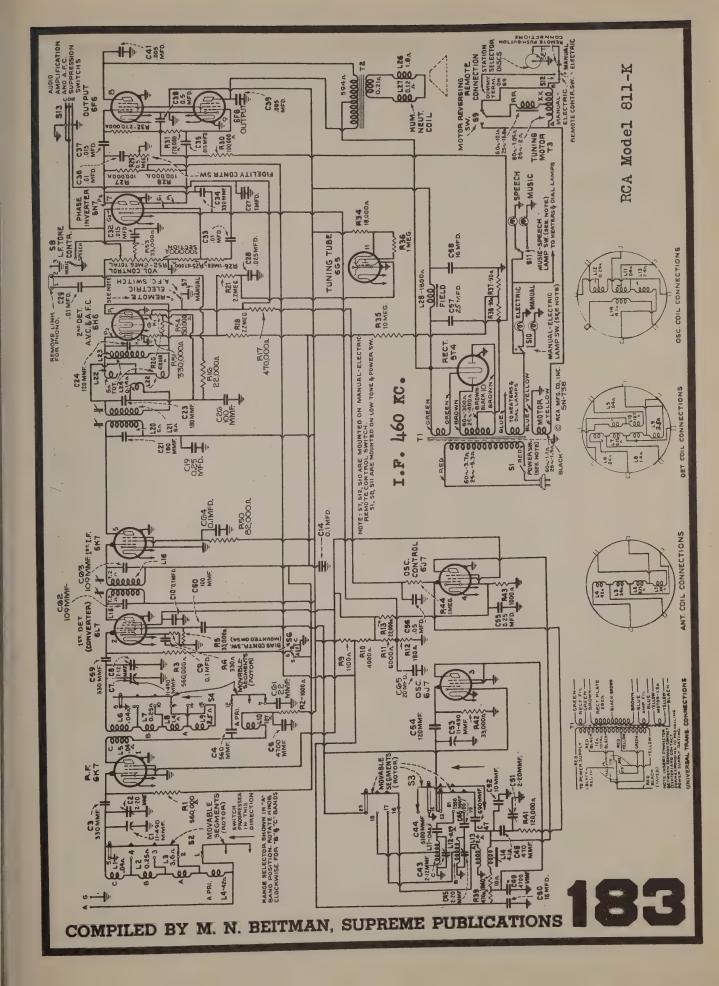
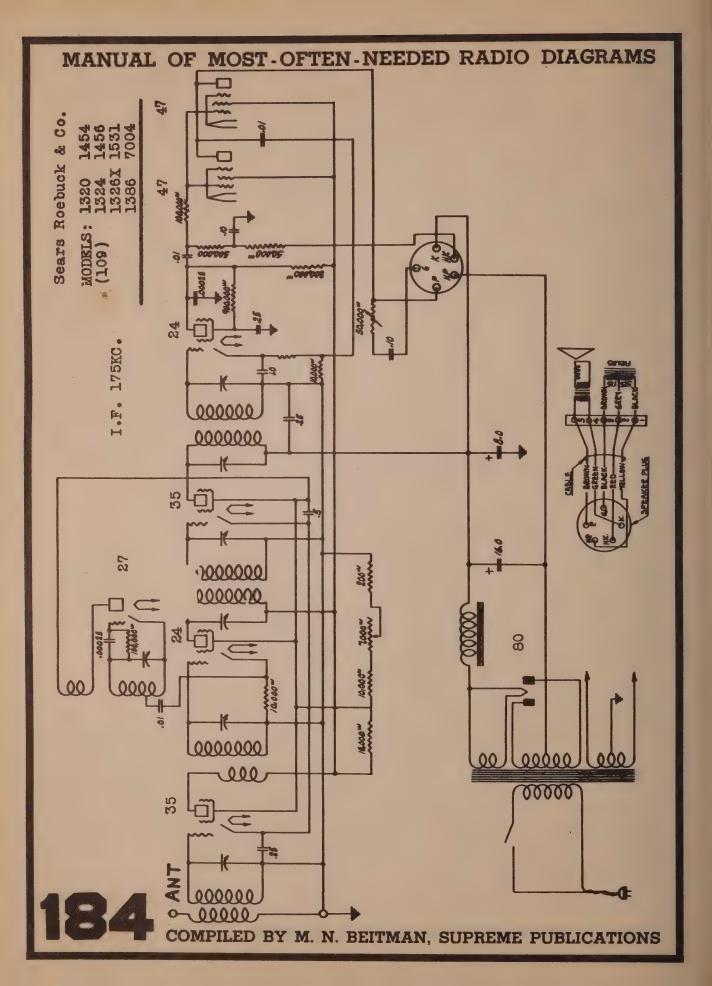


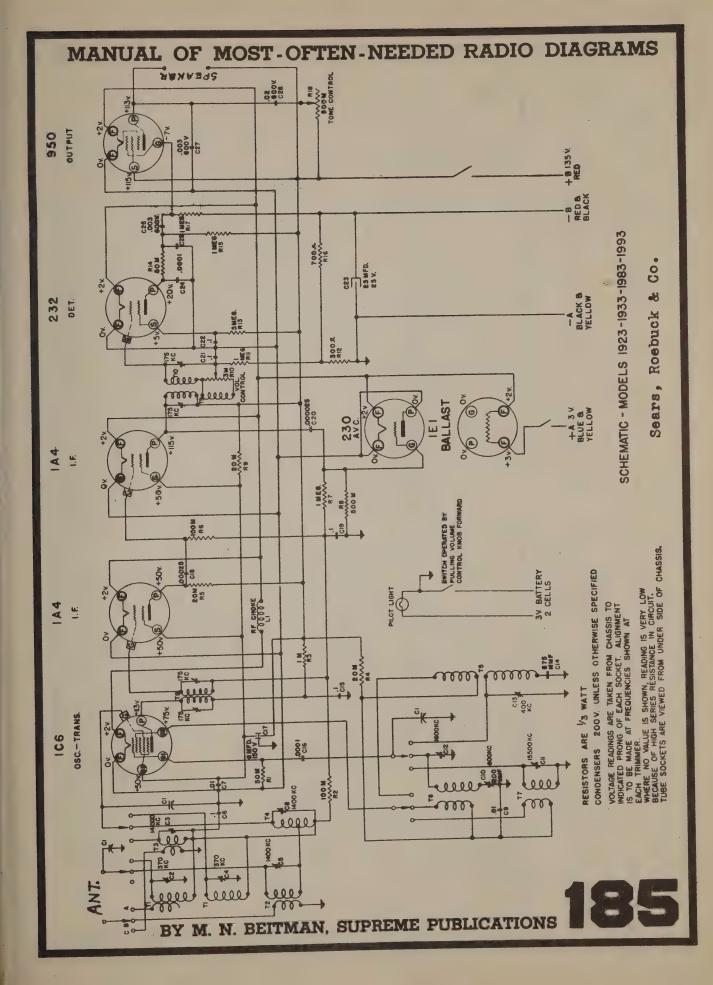
Figure B-Wiring Diagram

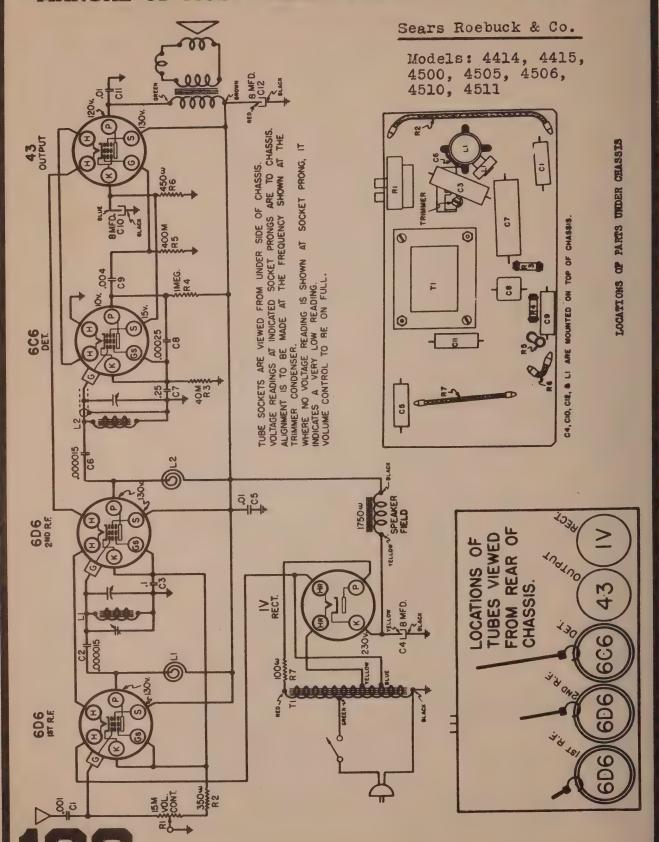
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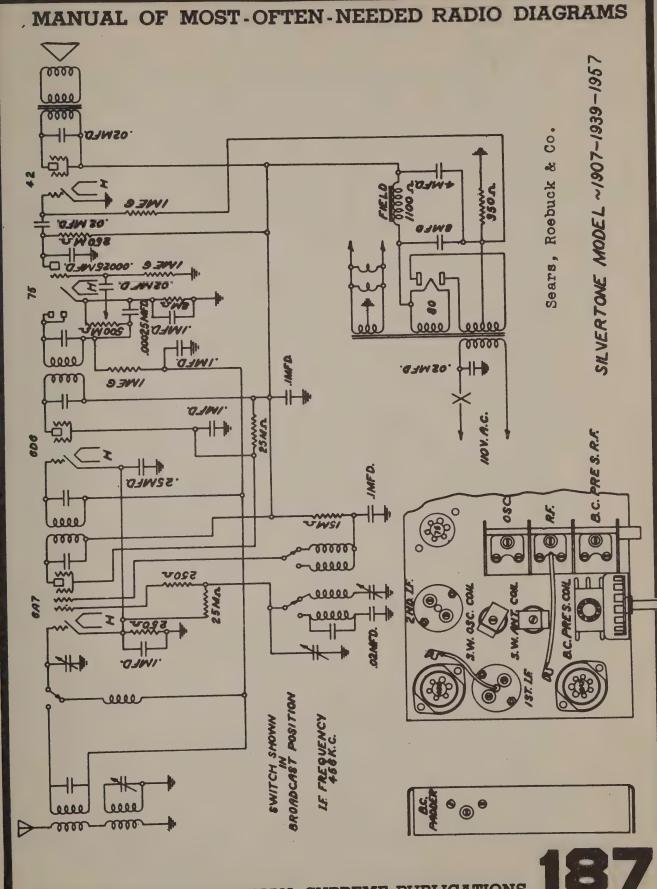


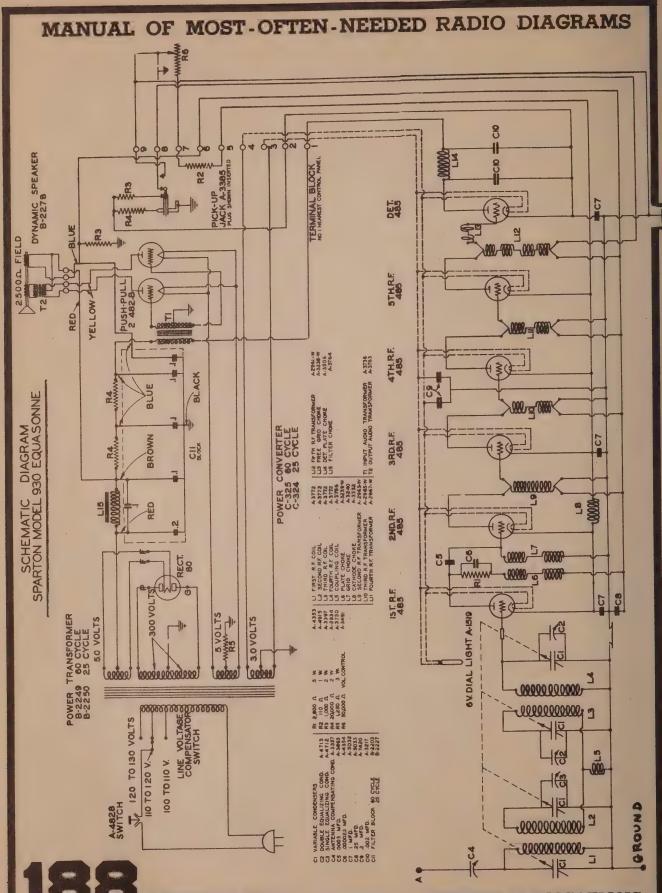


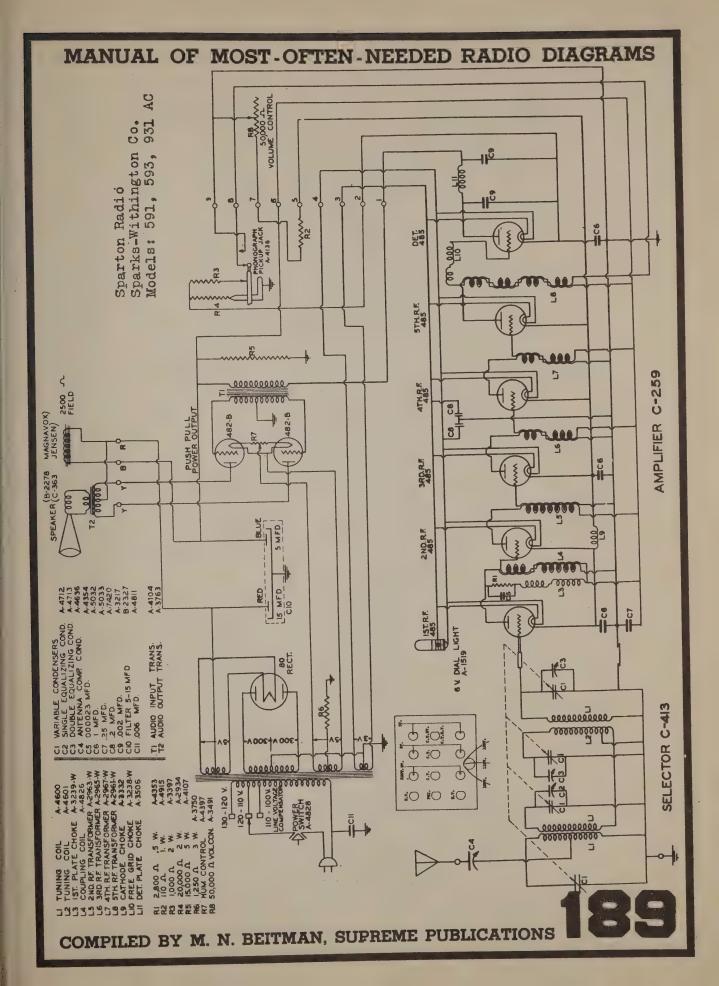




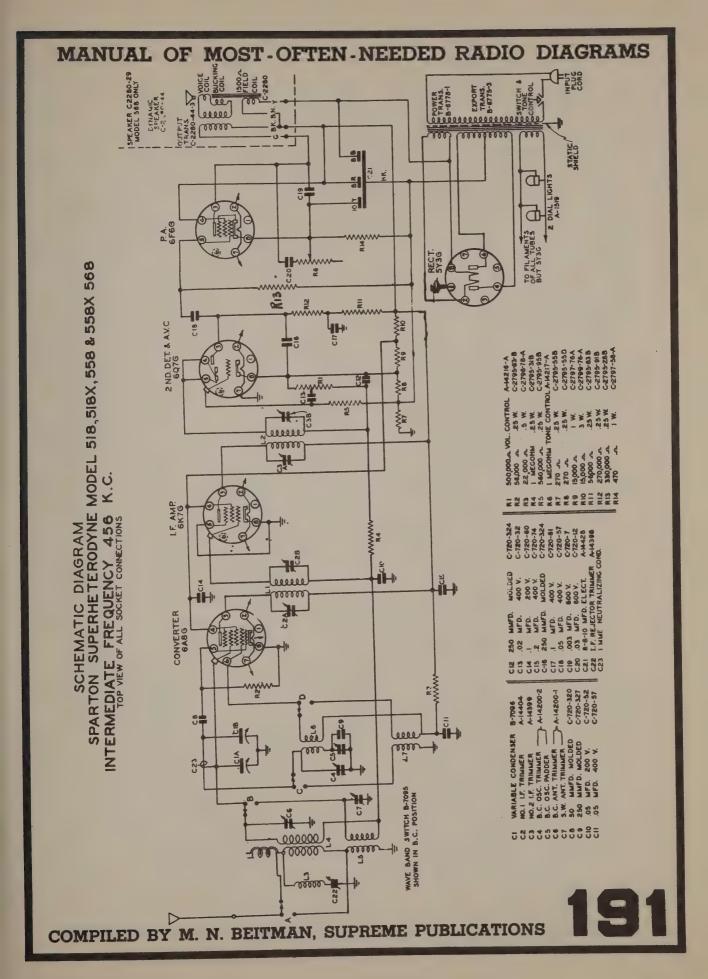


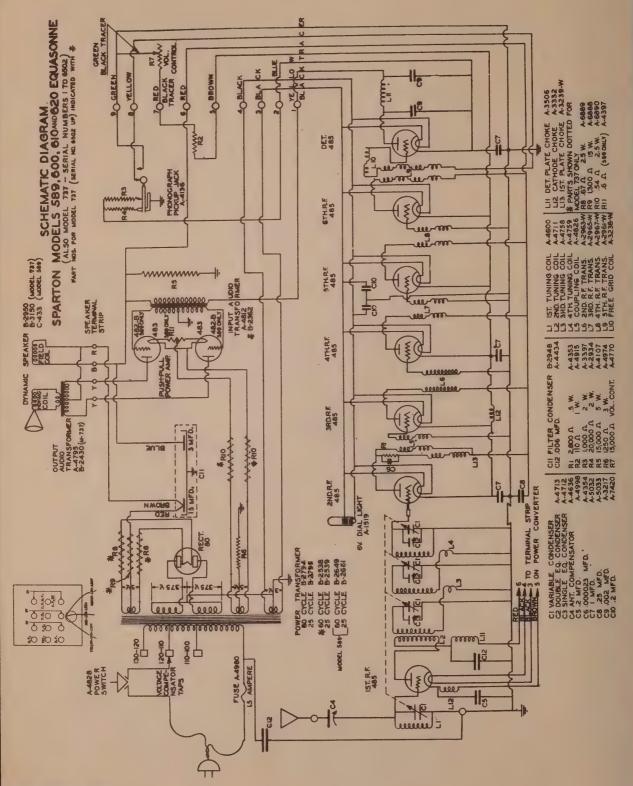




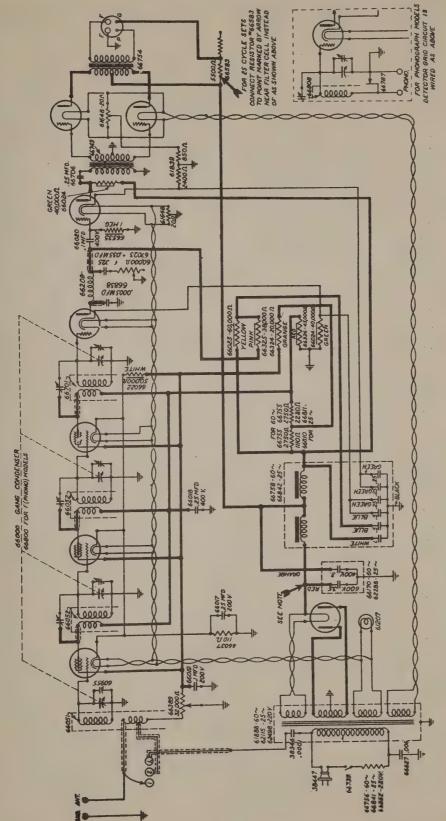


# MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS 2 NO. 1.P. BK7G SPARTON SUPERHETERODYNE MODEL 1068, 1078, 1068X & 1078X D D INTERMEDIATE FREQUENCY 456 K.C. TOP VEWS OF ALL SOCKET CONNECTIONS SCHEMATIC DIAGRAM 200 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 第2 5十



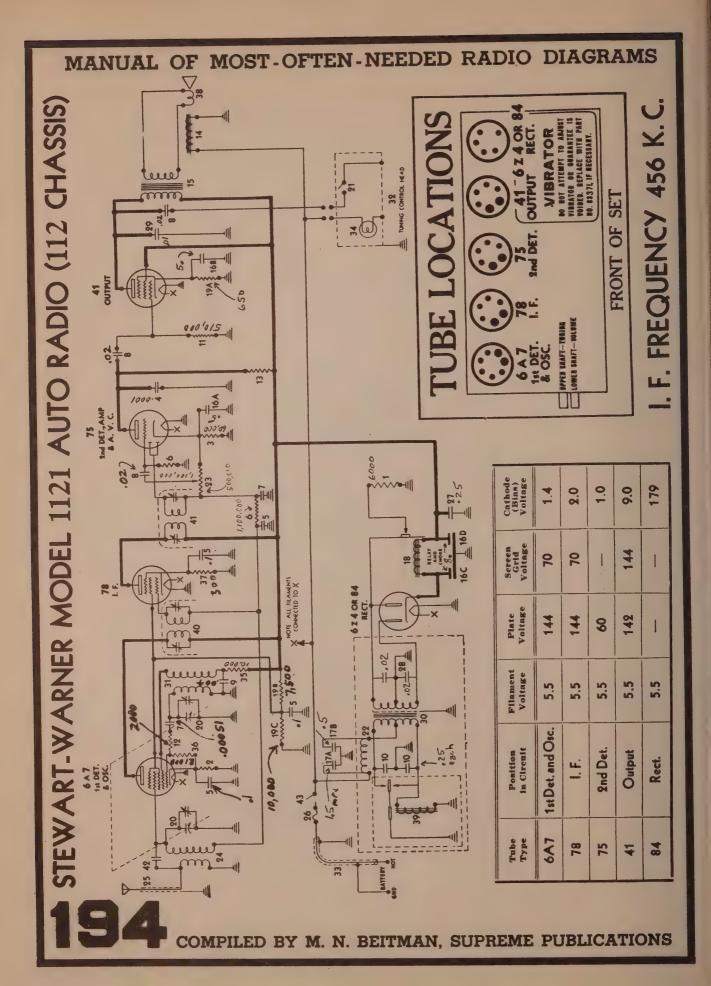


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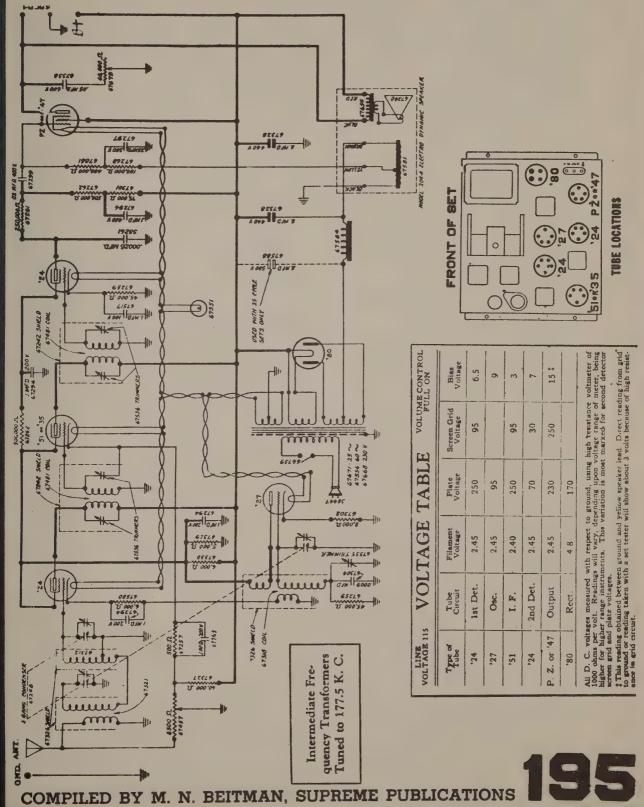


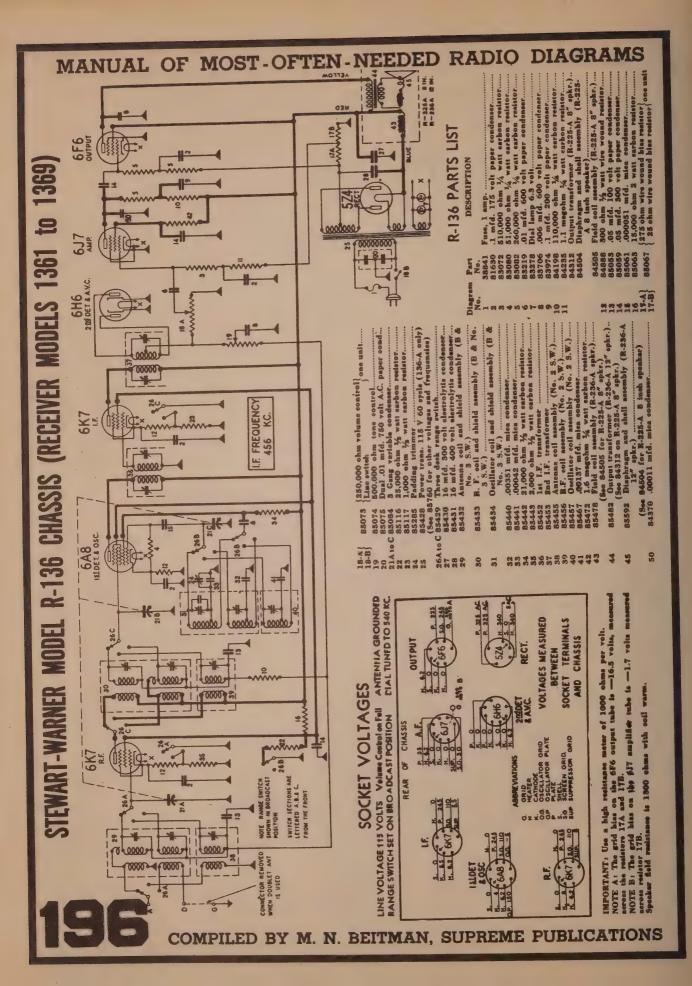
Stewart-Warner Model R-100-A, B, and E, Alternating Current Sets

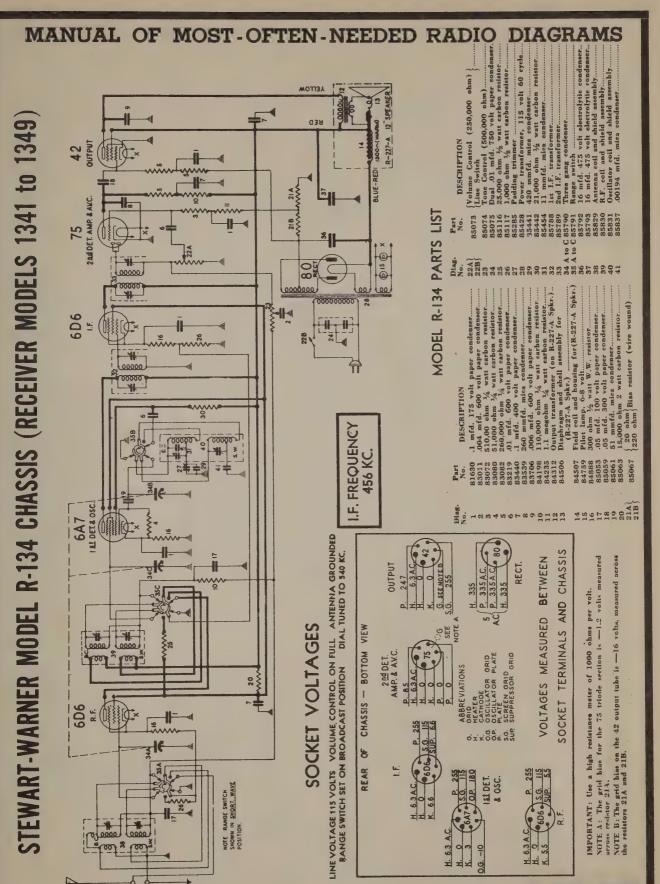
NS 193



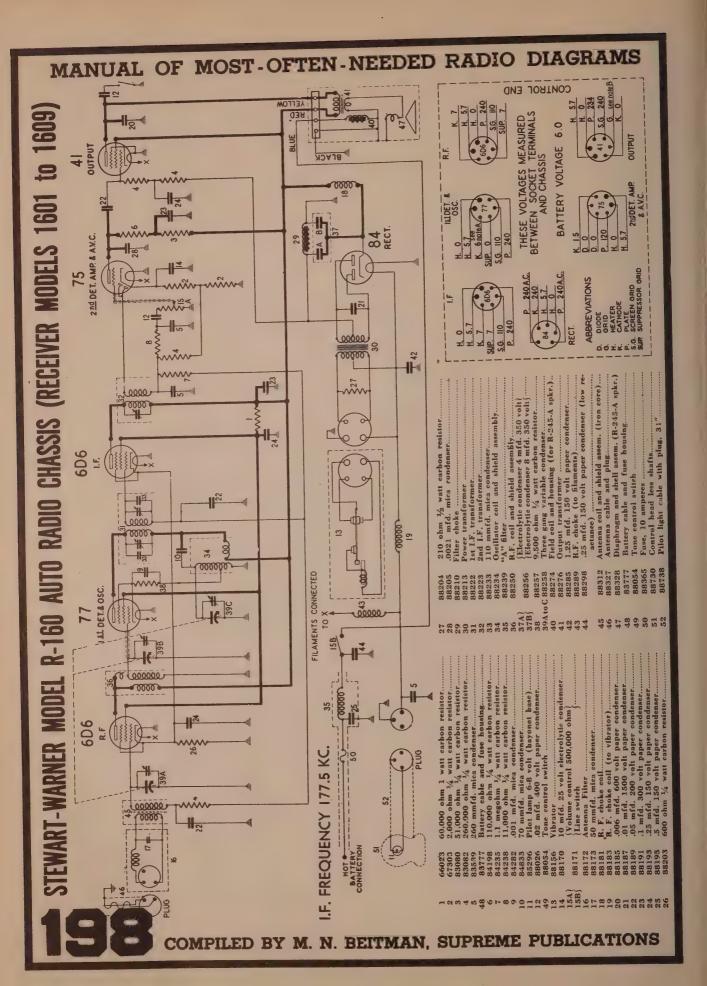
## MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS Circuit Data of Stewart-Warner Models R-102-A, B & E.\*

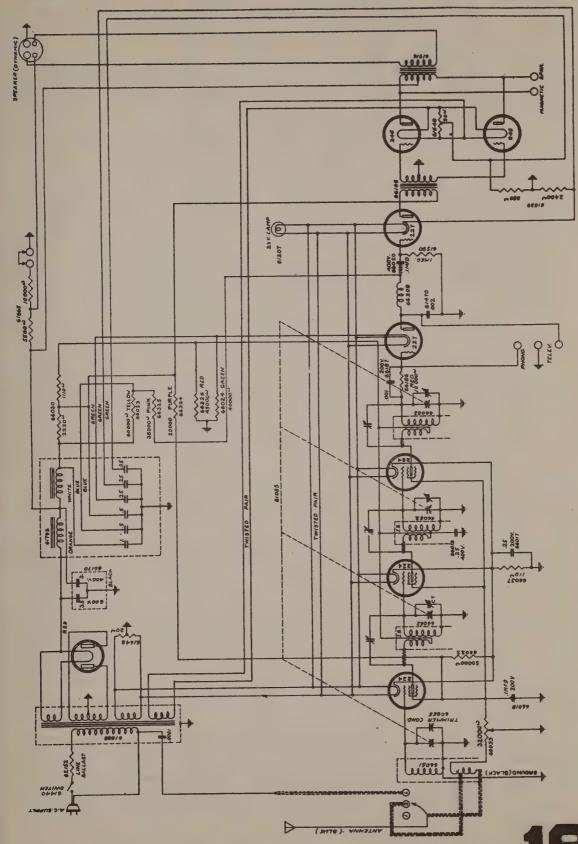






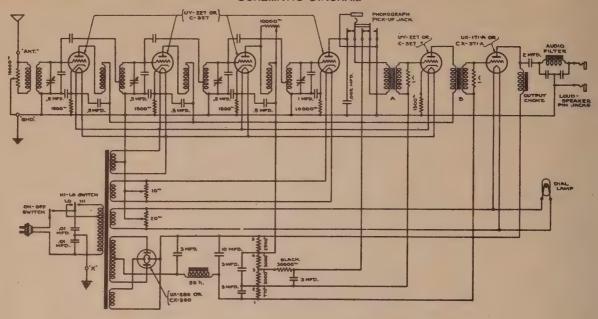
Ns 197





Stewart-Warner 950 Series A. C. Radio Receivers

SCHEMATIC DIAGRAM

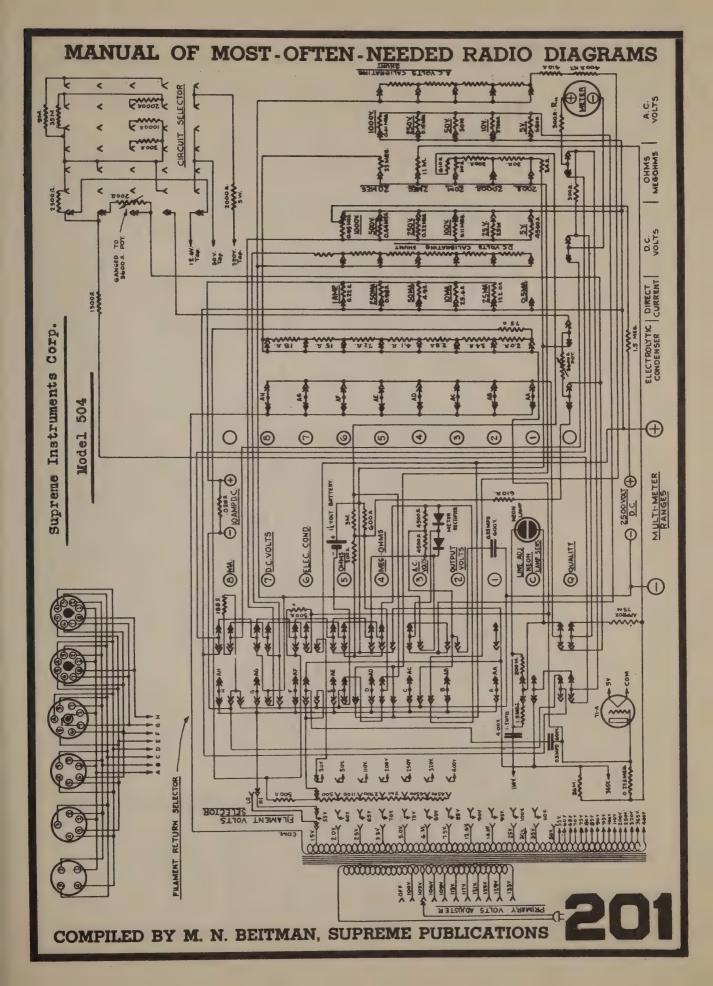


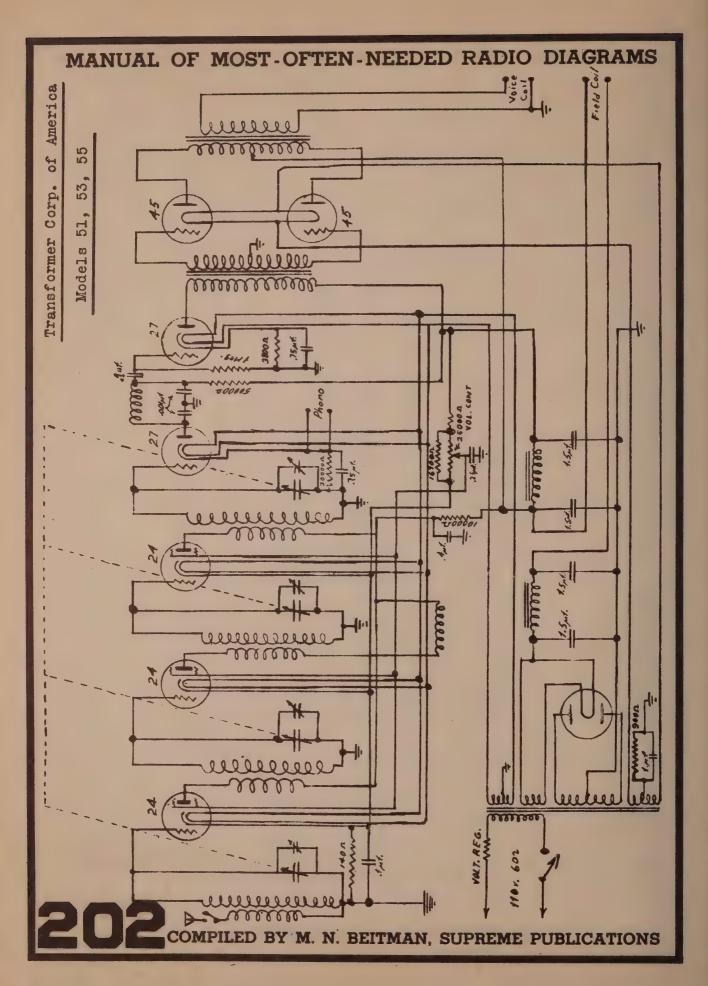
#### STROMBERG-CARLSON NOS. 635 AND 636 RECEIVERS

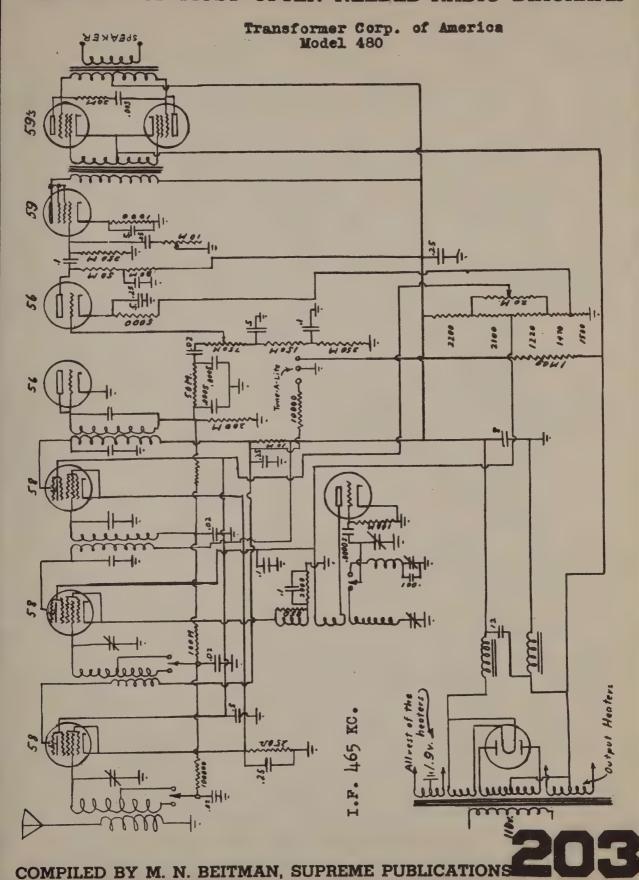
The following table shows how the filament, plate and grid voltages vary with different line voltages, in the No. 635 receiver. The plate voltages are measured between tube plates and Tap No. 2 of the voltage divider. The grid voltages of the heater type tubes are measured across the cathode resistors; and that of the audio output tube is measured between Taps No. 1 and No. 2 of the voltage divider.

| Line Voltage "HI-LO" Switch                                         | 105          | 110           | 115          | 115          | 120          | 125           |
|---------------------------------------------------------------------|--------------|---------------|--------------|--------------|--------------|---------------|
|                                                                     | "LO"         | "LO"          | "LO"         | "HI"         | "HI"         | "HI"          |
| UX-280<br>Filament Voltage (RMS)<br>Voltage per anode (RMS)         | 4.5<br>236.0 | 4.75<br>248.0 | 5.0<br>259.0 | 4.5<br>236.0 | 4.7<br>248.0 | 4.93<br>258.0 |
| Amplifiers Heater Voltage (RMS) Plate Voltage Grid Voltage          | 2.17         | 2.27          | 2.38         | 2.16         | 2.26         | 2.35          |
|                                                                     | 106.0        | 110.0         | 115.0        | 106.0        | 110.0        | 115.0         |
|                                                                     | — 5.0        | — 5.5         | — 5.75       | — 4.7        | — 5.2        | — 5.6         |
| Detector Heater Voltage (RMS) Plate Voltage Grid Voltage            | 2.11         | 2.22          | 2.32         | 2.1          | 2.2          | 2.3           |
|                                                                     | 39.0         | 40.0          | 42.0         | 38.0         | 40.0         | 41.0          |
|                                                                     | — 3.25       | — 3.5         | — 3.75       | — 3.25       | — 3.5        | — 3.75        |
| Audio Output Tube Filament Voltage (RMS) Plate Voltage Grid Voltage | 4.5          | 4.75          | 5.0          | 4.53         | 4.72         | 4.94          |
|                                                                     | 167.0        | 175.0         | 184.0        | 165.0        | 174.0        | 182.0         |
|                                                                     | —37.0        | —40.0         | —41.0        | —36.0        | —40.0        | —41.0         |

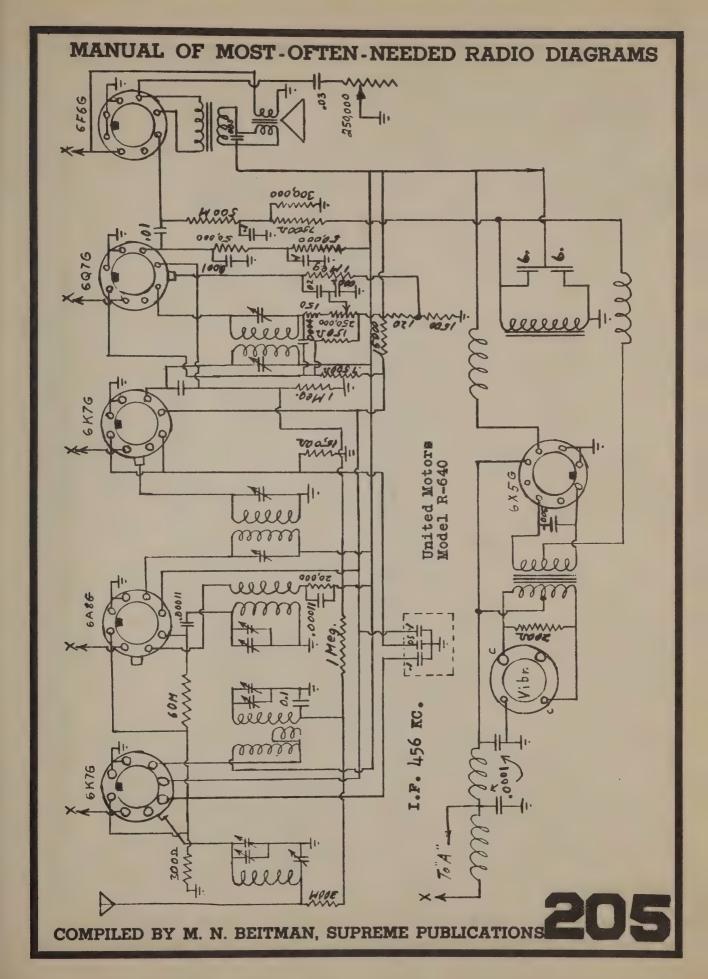
NOTE—The grid voltage on the 1st audio tube will be slightly lower than that on the R. F. amplifier tubes, due to the drop in the secondary of the 1st audio transformer.

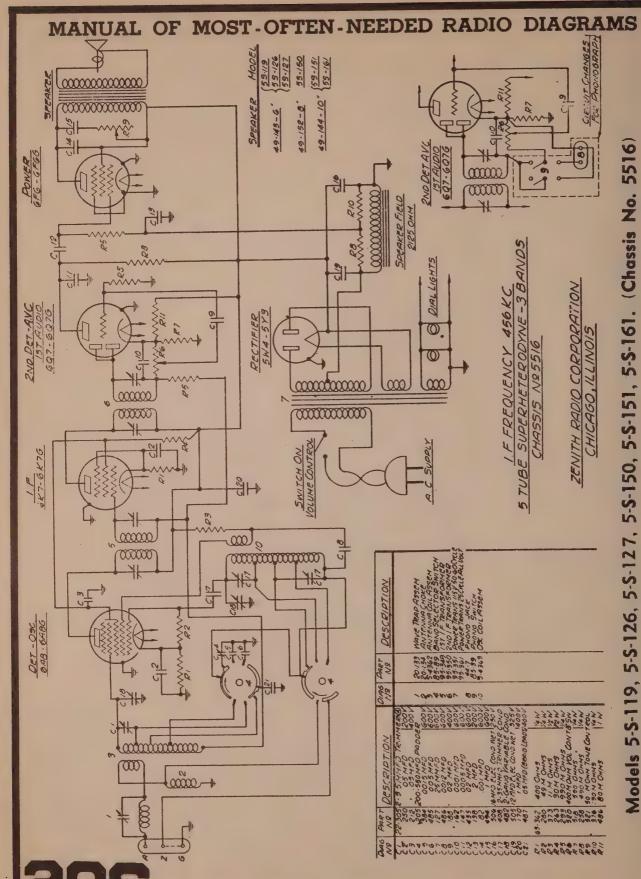




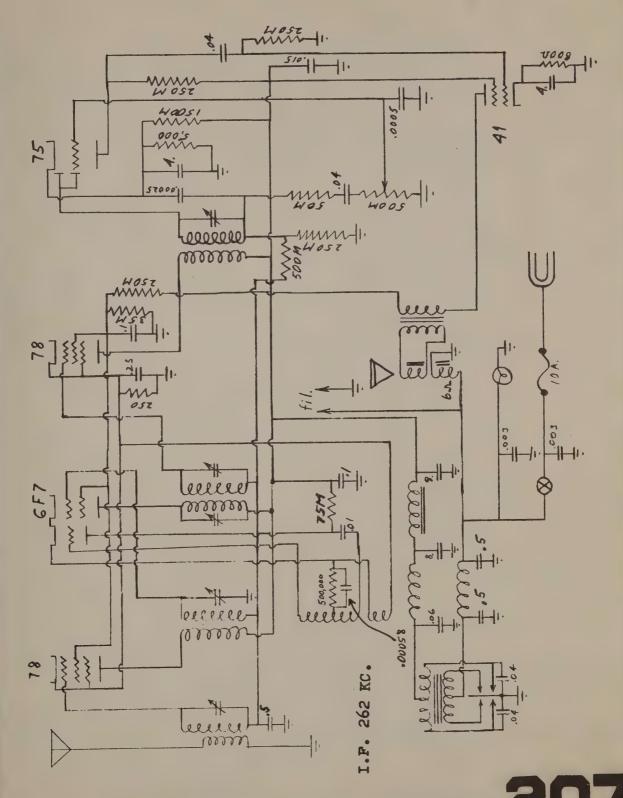


# MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS 127 llllll 2000 2000022 80 United American Bosch Corp. Models: 60, 60D, 60E, 61 OMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

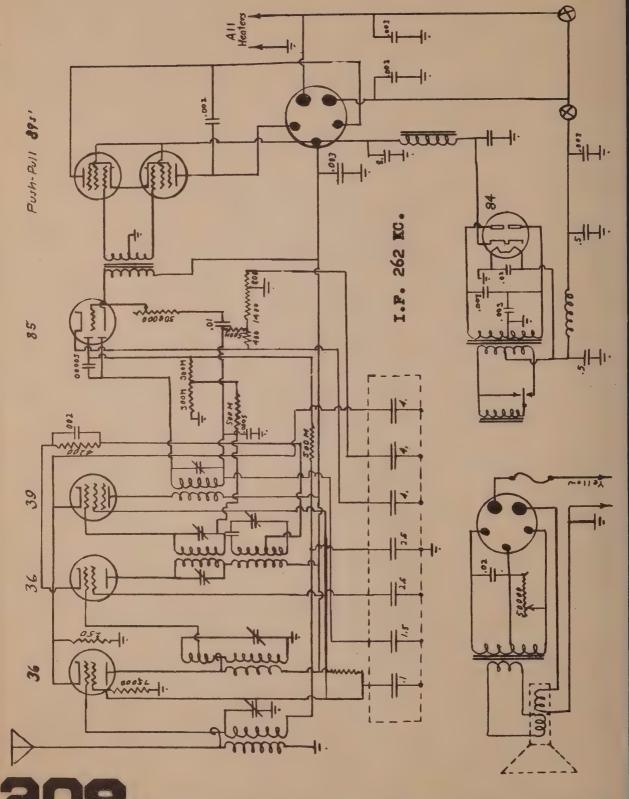


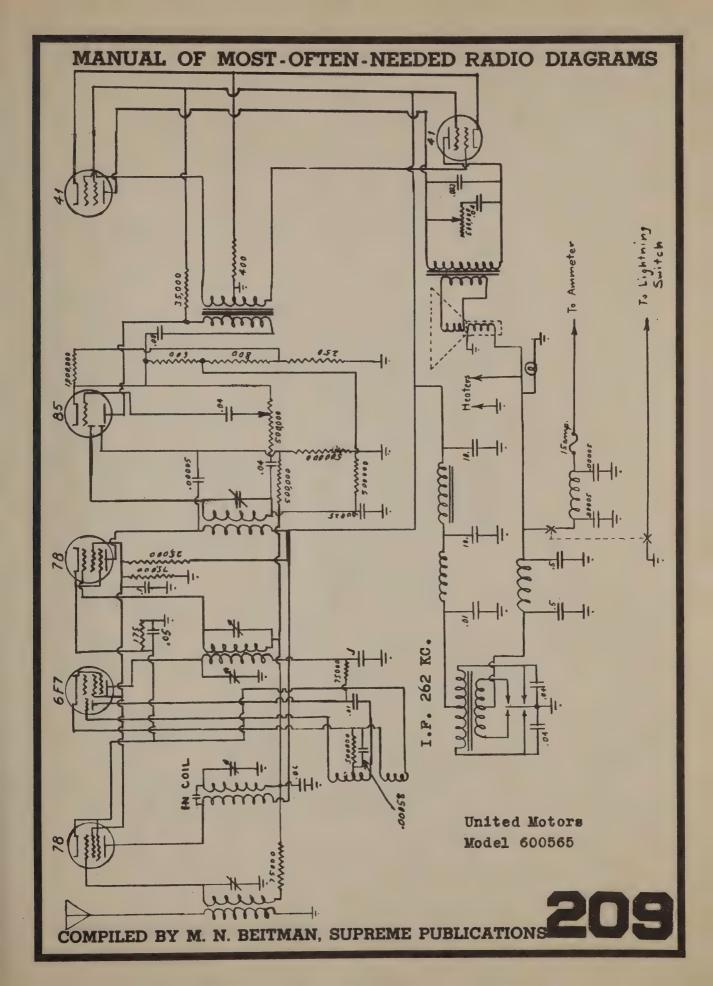


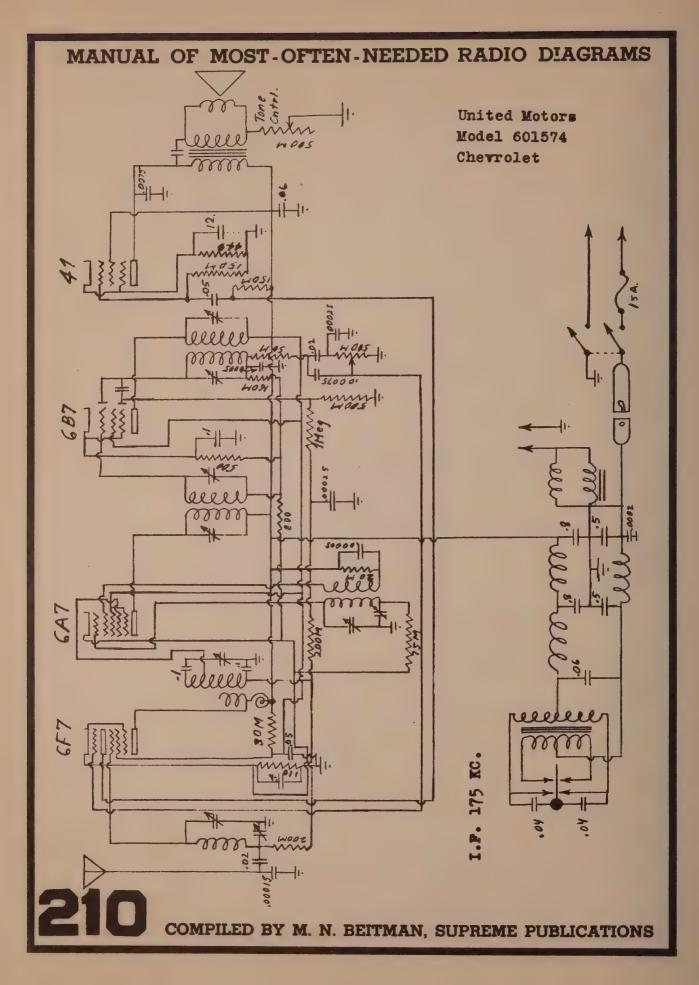
United Motors Service Model 4037

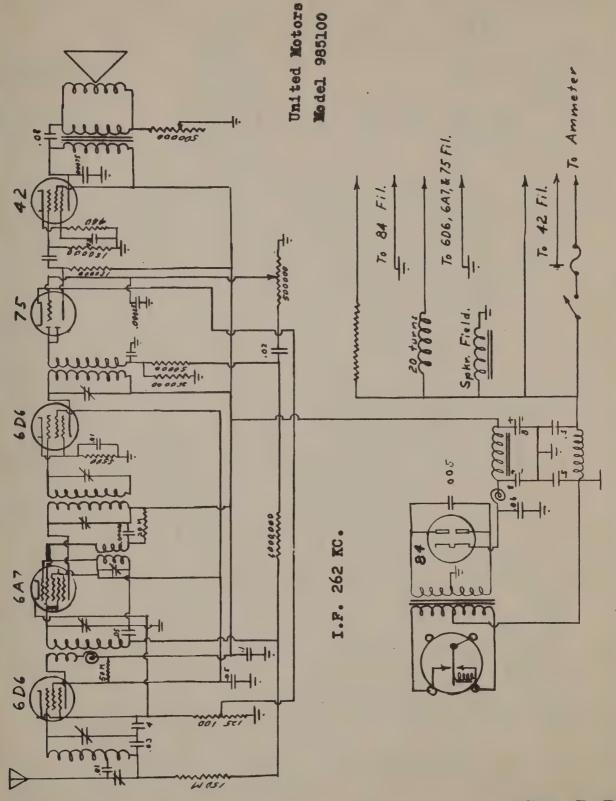


United Motors Model 364441

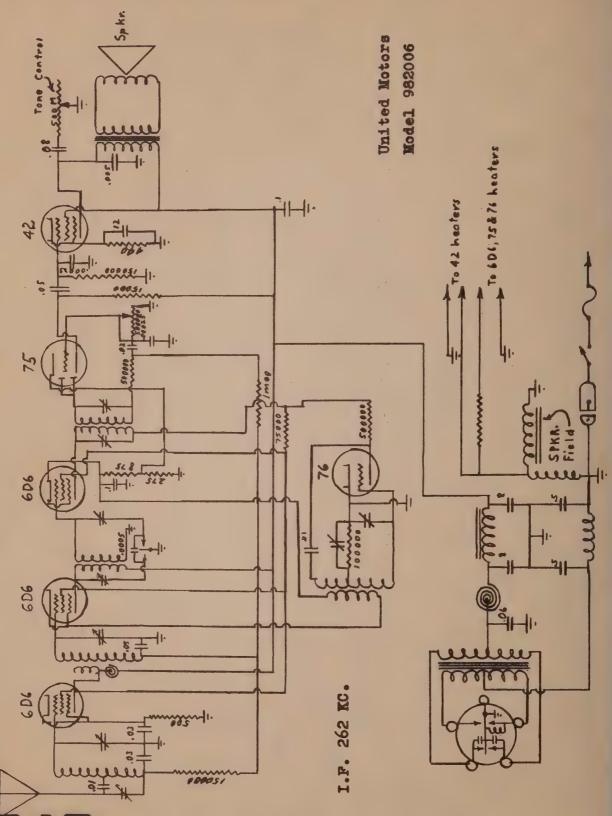




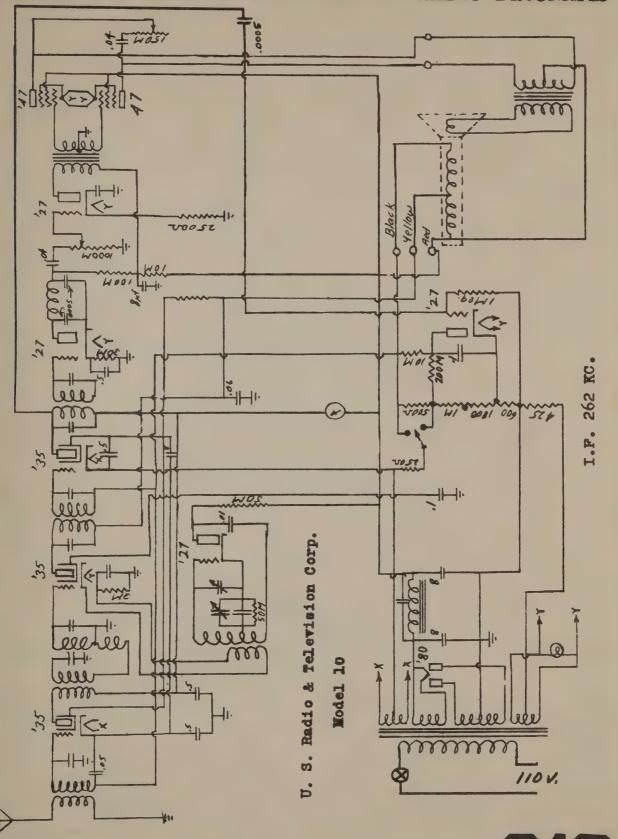




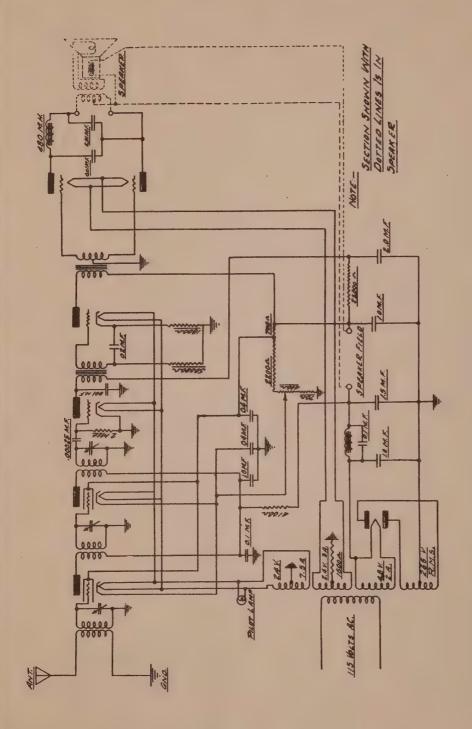
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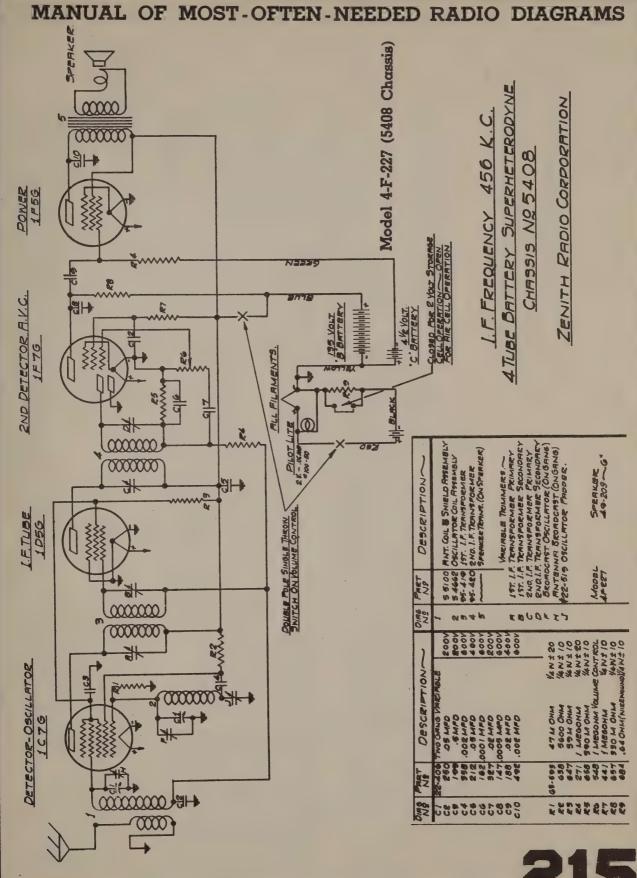
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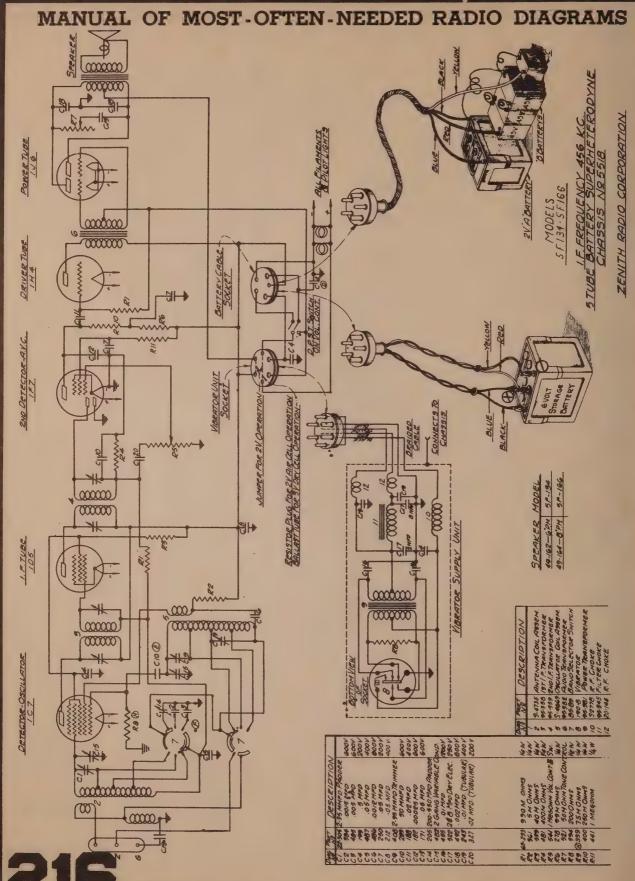


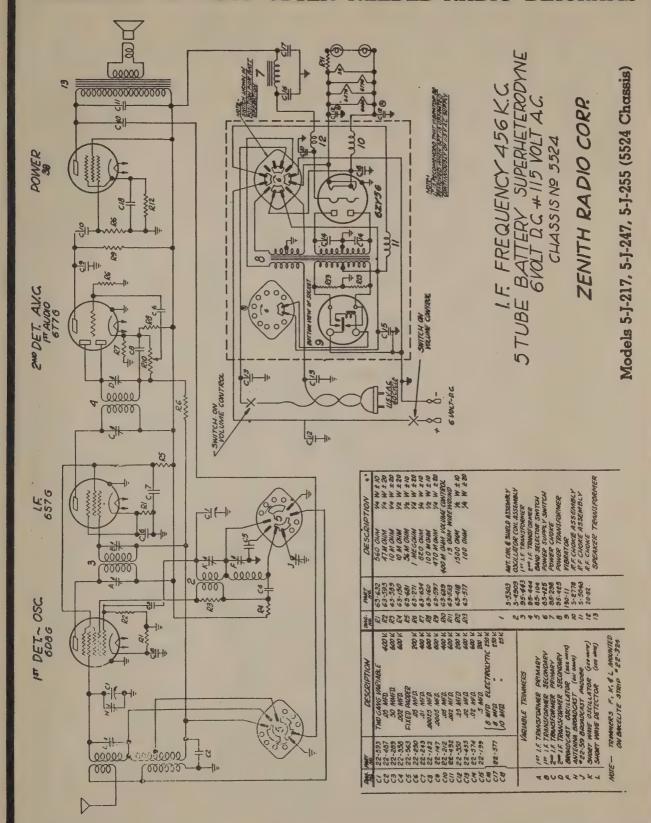
U. S. Radio & Television Corp.
Models 46, 46A, 47, 47A

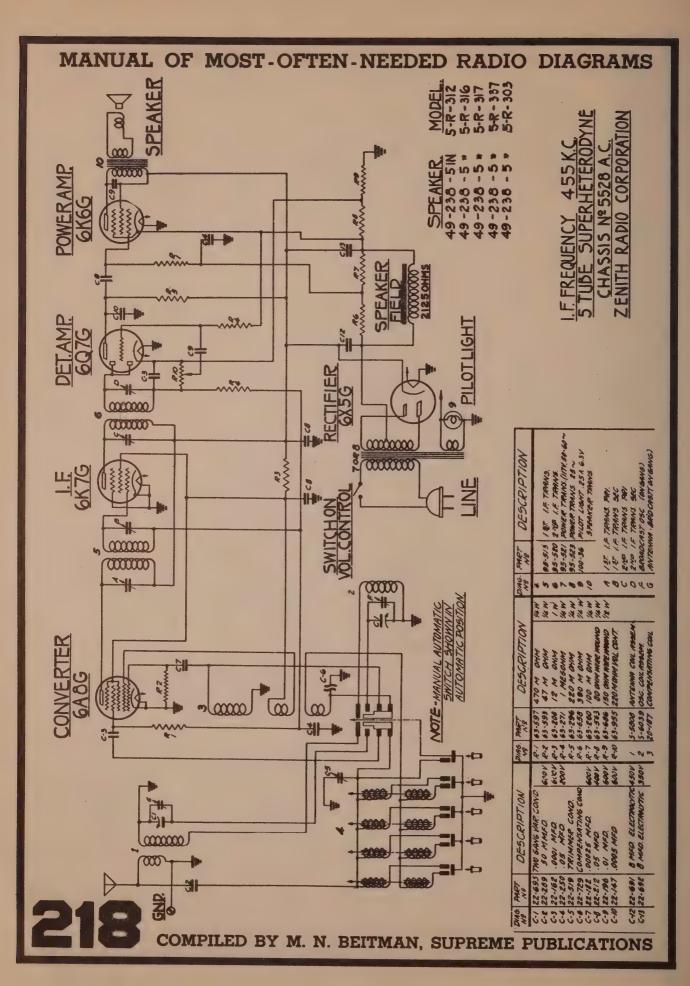
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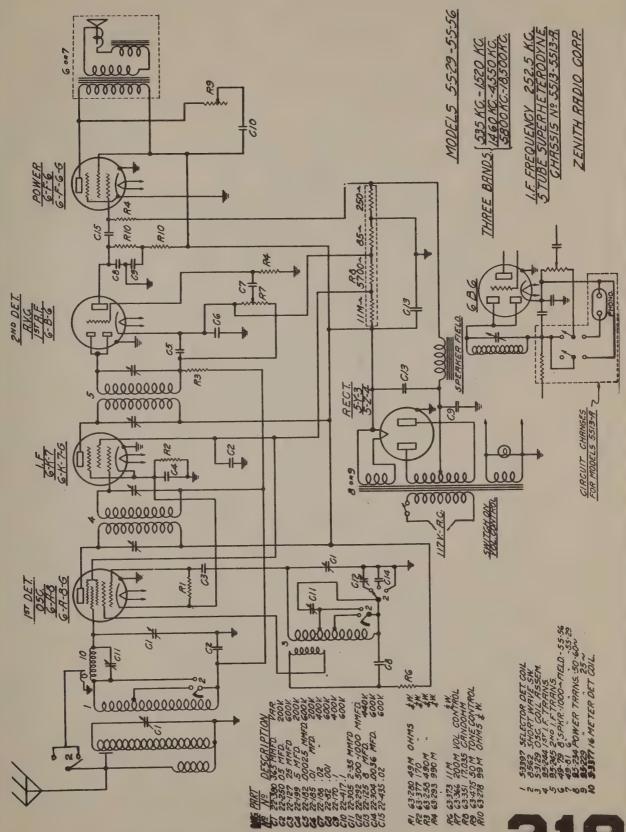
|         | Fil.      | Term.  | 2.3 | 2.3      | 2.3 | 2.3 | 4.6        |  |
|---------|-----------|--------|-----|----------|-----|-----|------------|--|
|         | .G. Cath. | าด     | 2.7 |          | 6.  | 38. | te         |  |
| CHART   | O         | ground |     | Detector |     |     | each plate |  |
| VOLTAGE | S.G.      | ges to | 98  | Det      |     |     | A.C. es    |  |
|         | Plate S.( | Volt8  | 173 | 38       | 100 | 169 |            |  |
|         | Tube      | Type   | 24  | 27       | 27  | 45  | 80         |  |
|         |           |        |     |          |     |     |            |  |





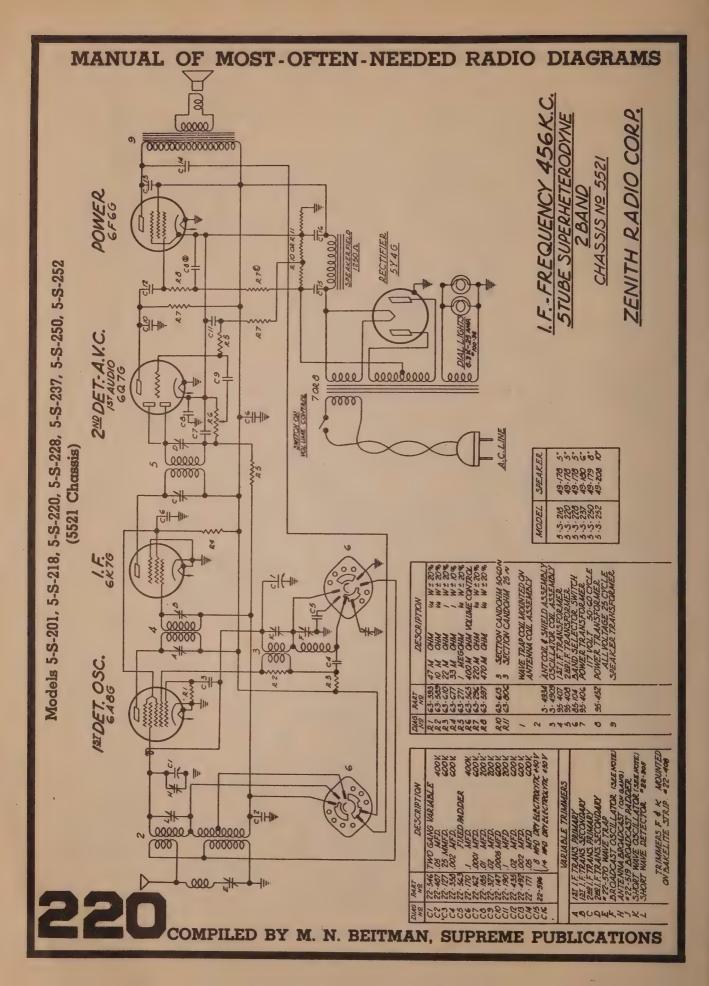


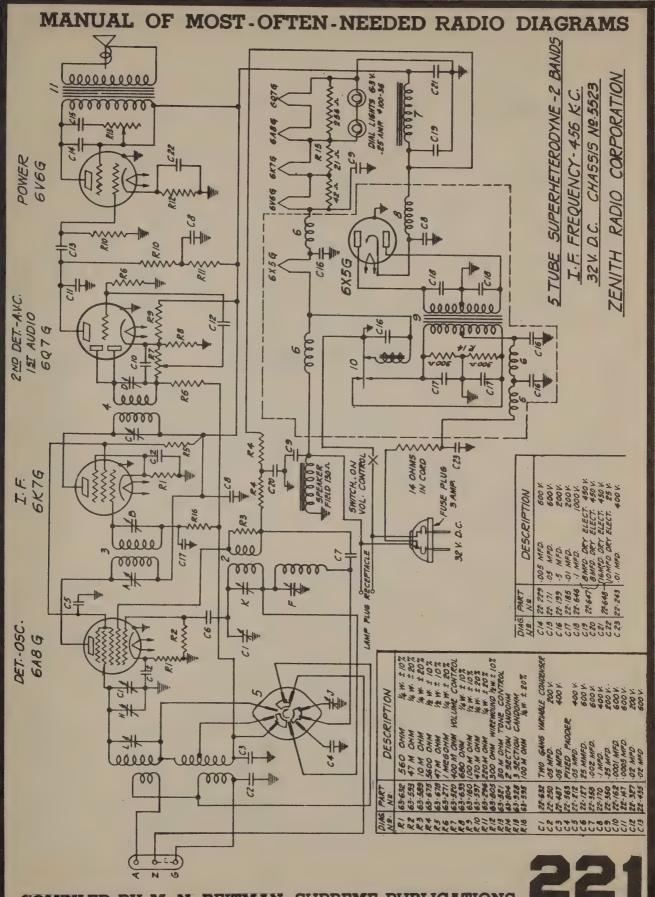


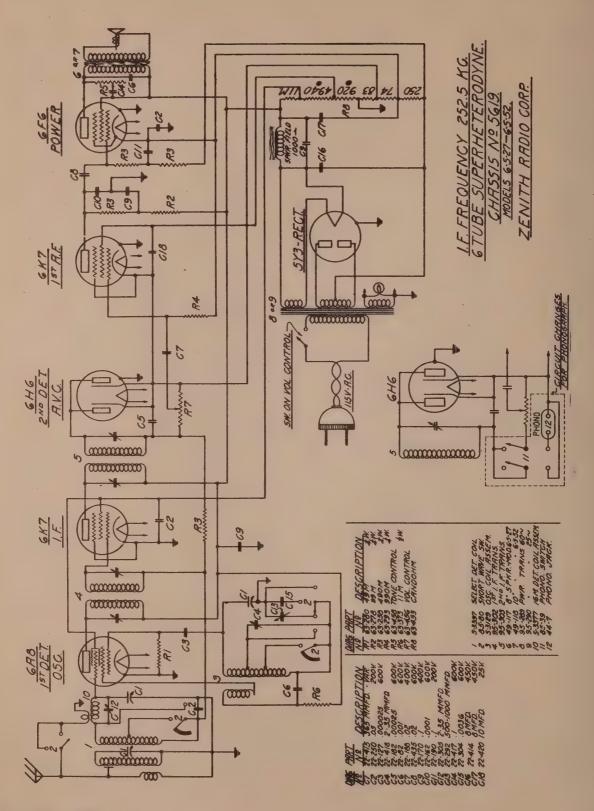


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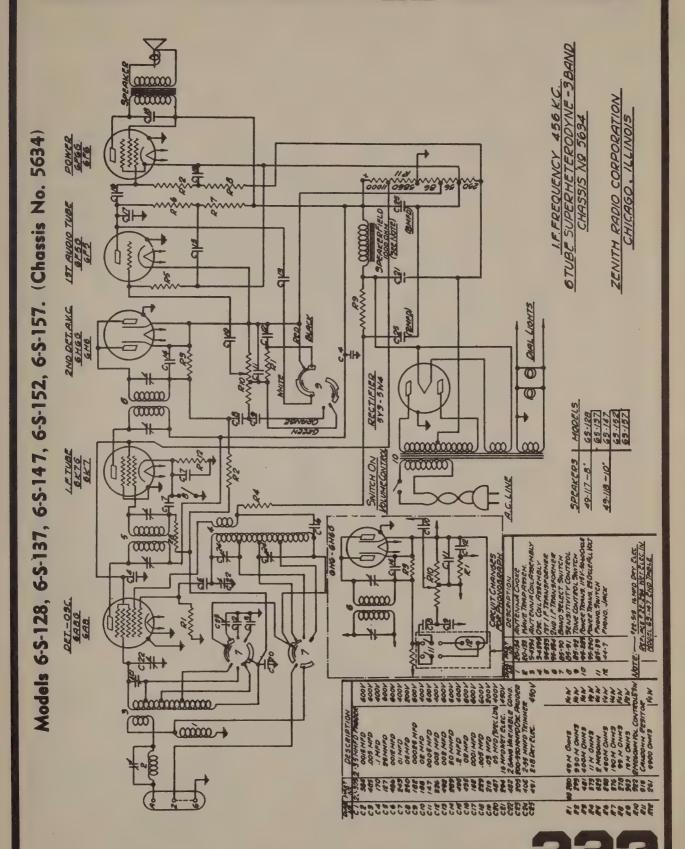
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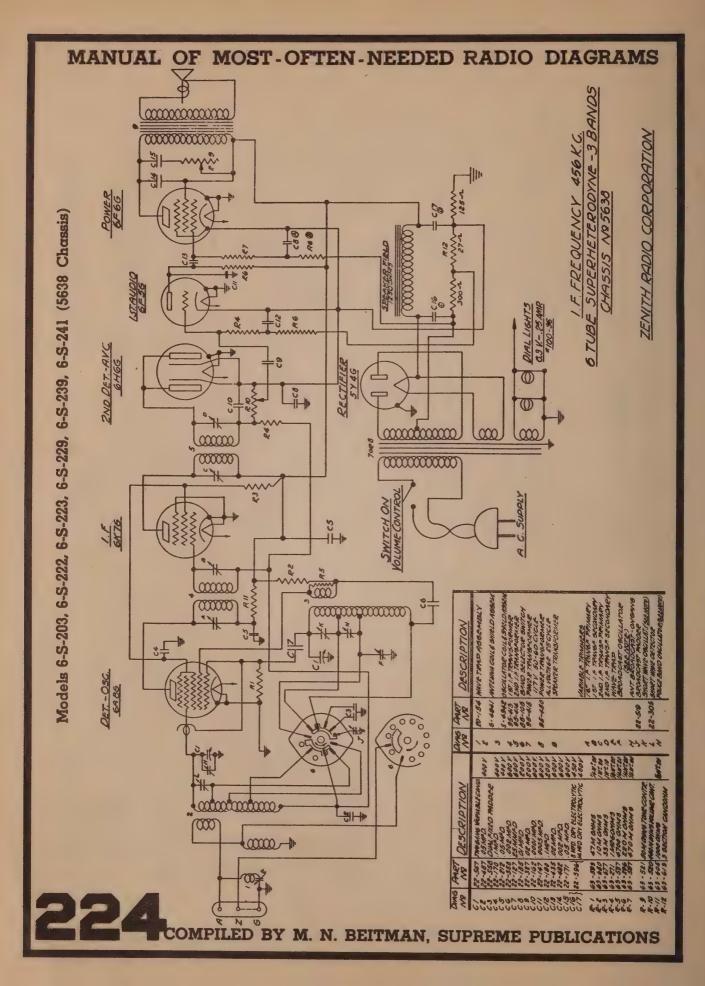


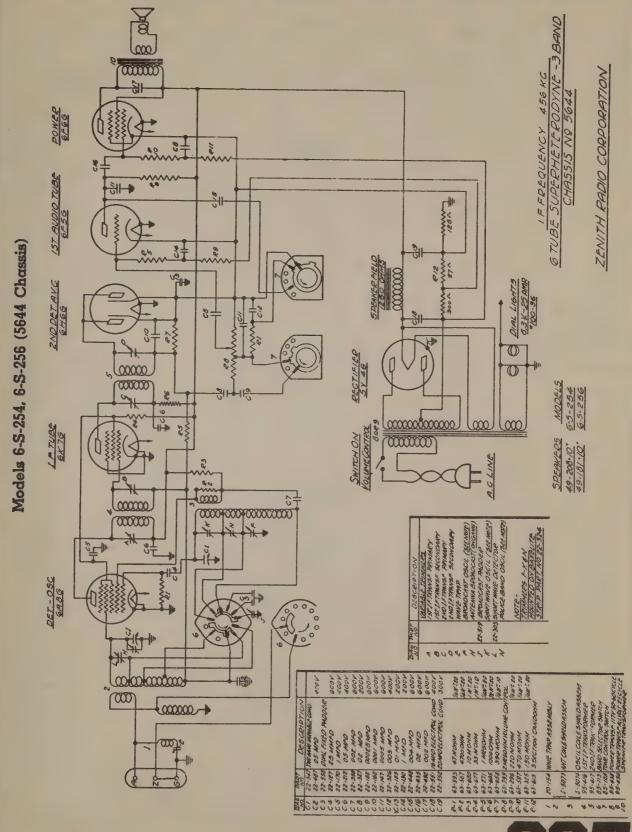




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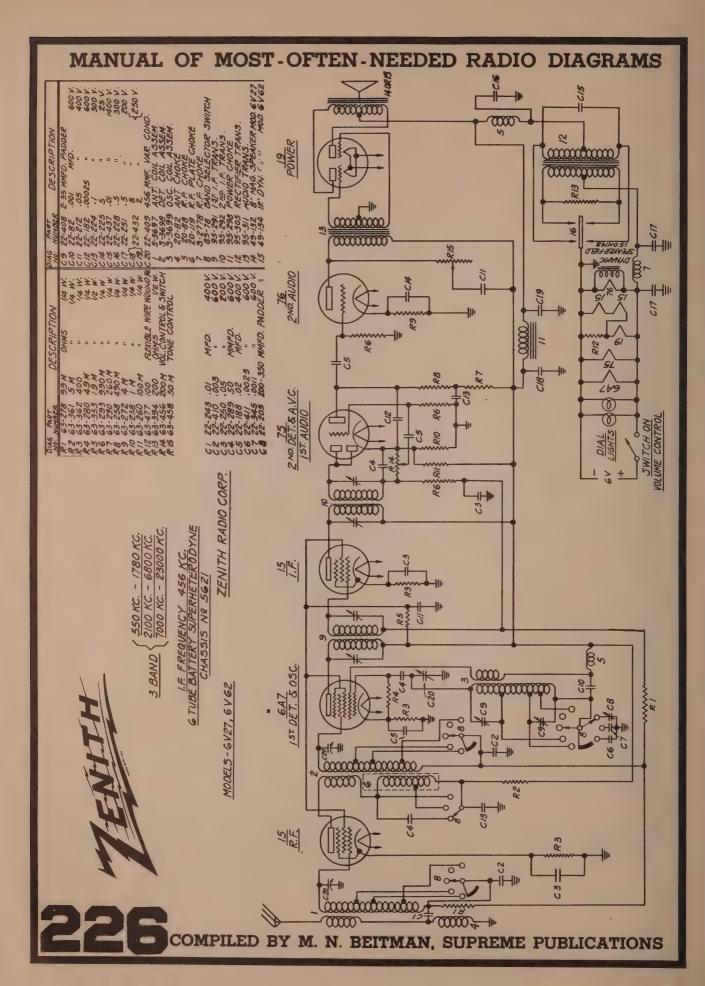


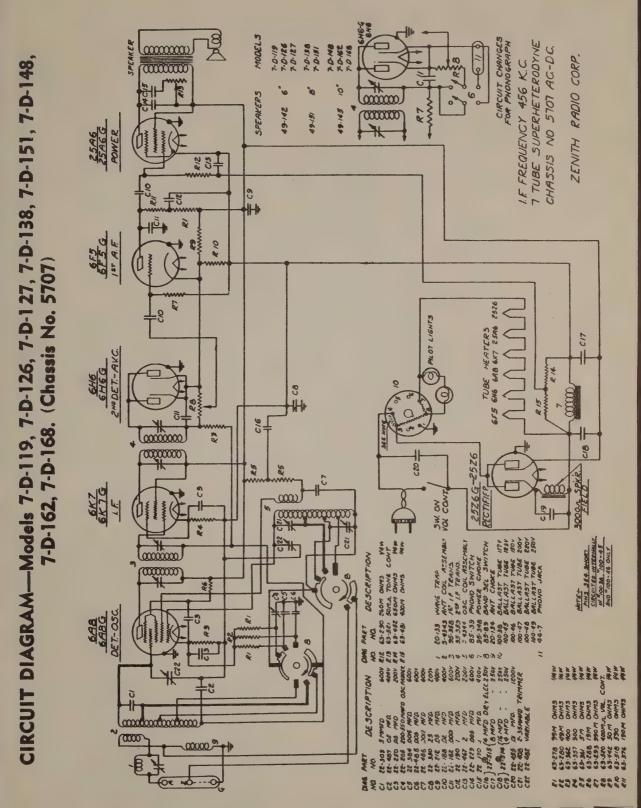




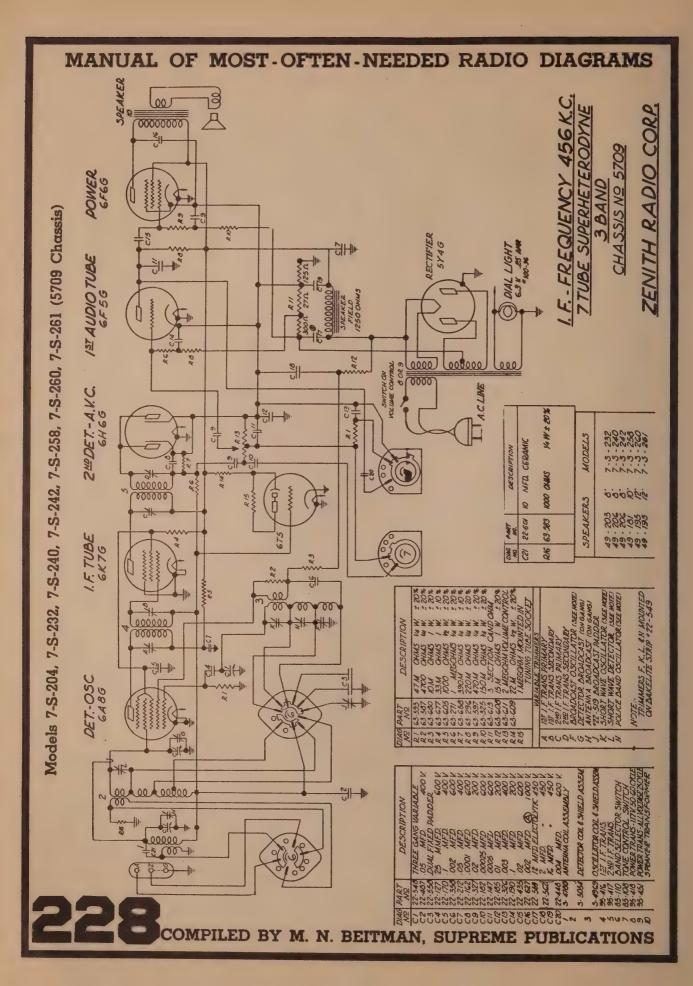
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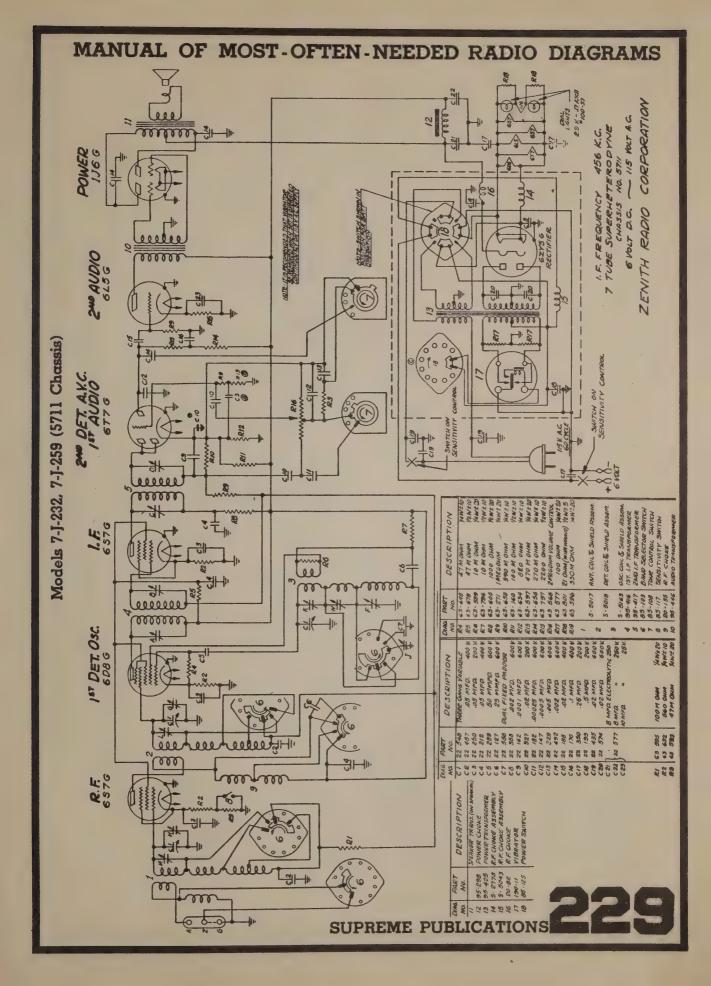
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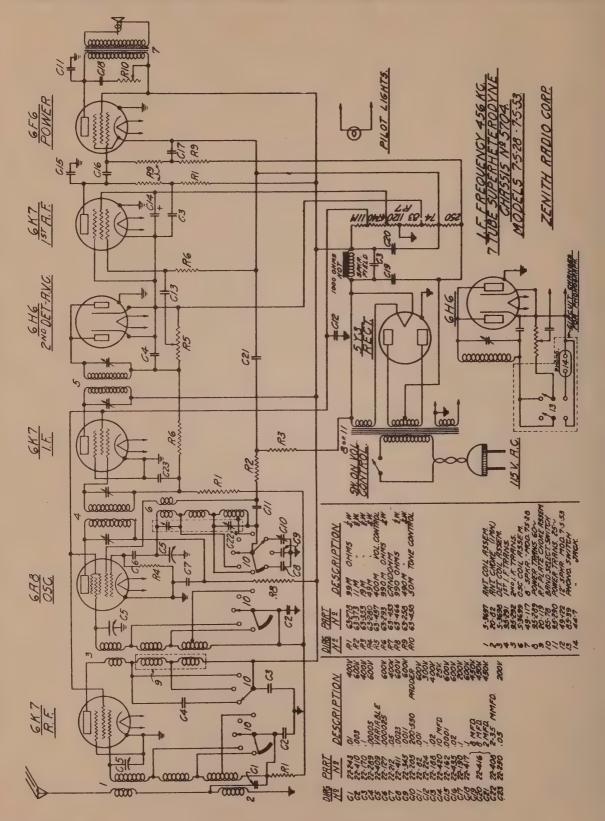


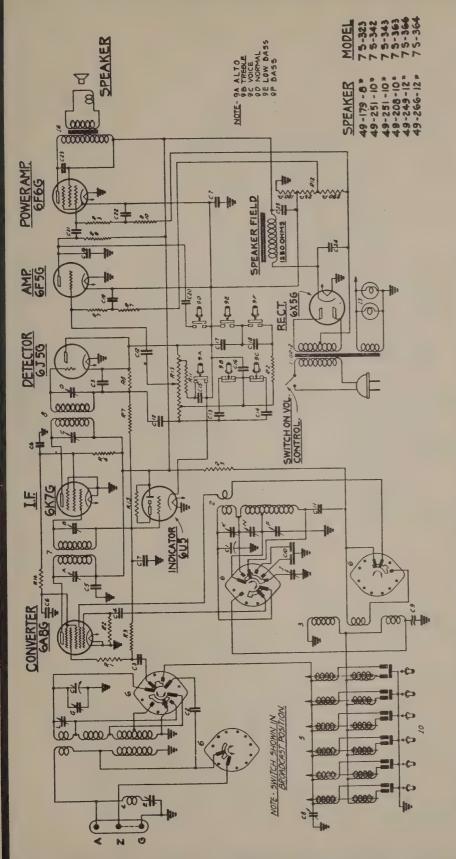


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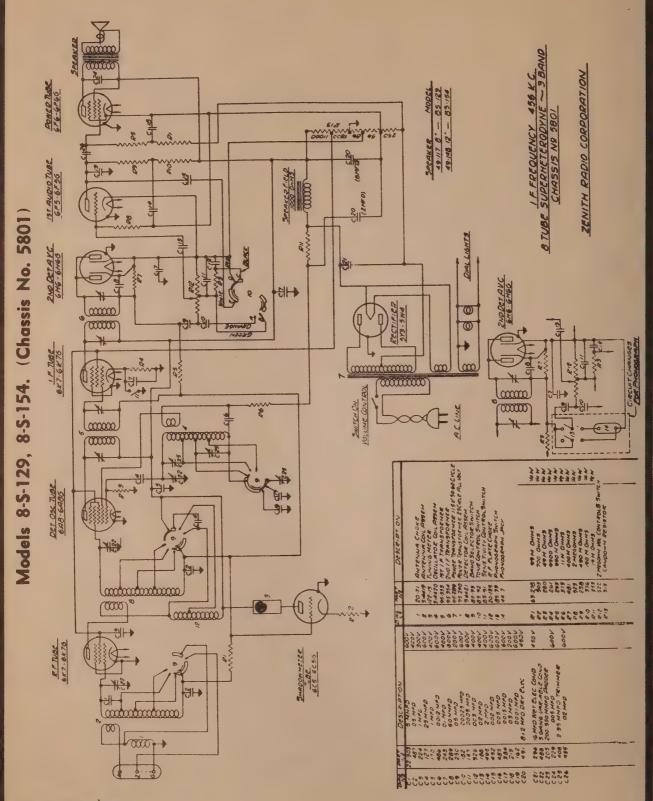


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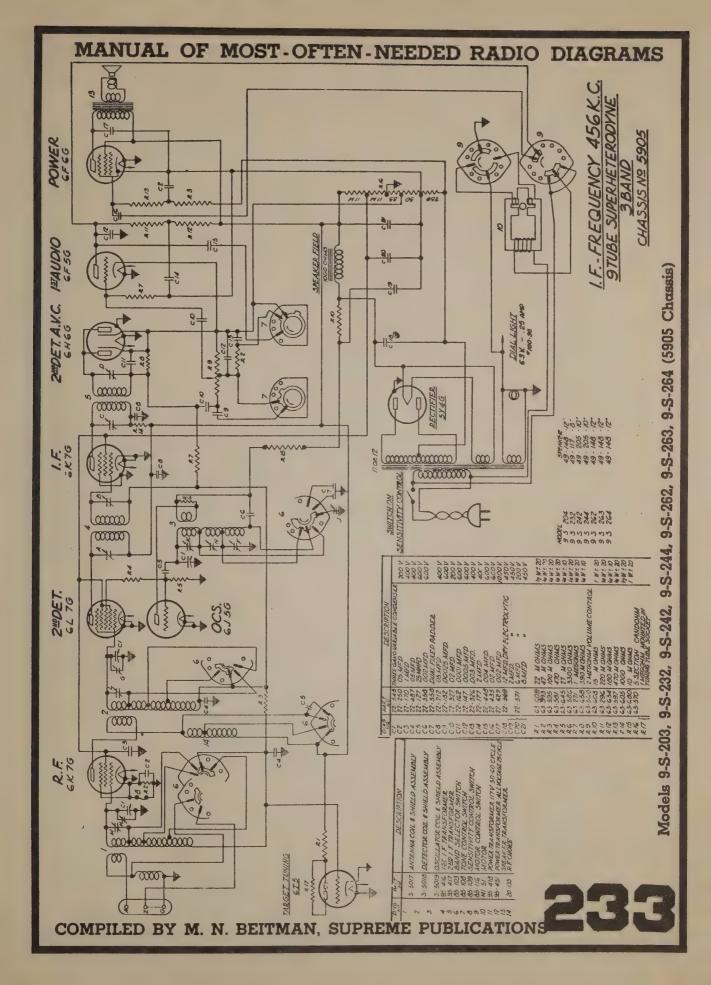
T FREQUENCY 455K.C.
7 TUBE SUPERHETEROPYNE
CHASSIS Nº 5714-A.C. 3-BAND
ZENITH RADIO CORPORATION

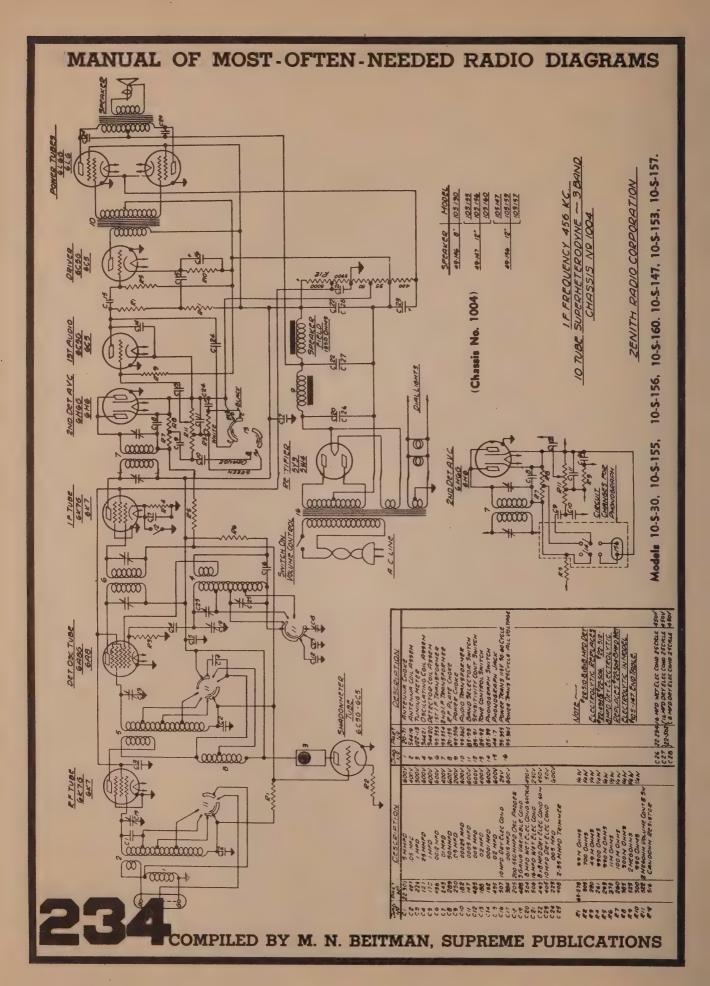
|                       |                                 |                     |                          |                                          | _                                |           |                                |                             |                        | _                       | _                           | -                            | -                                     | -                           | -                        | _                       | -                          | _                          | -                                 |
|-----------------------|---------------------------------|---------------------|--------------------------|------------------------------------------|----------------------------------|-----------|--------------------------------|-----------------------------|------------------------|-------------------------|-----------------------------|------------------------------|---------------------------------------|-----------------------------|--------------------------|-------------------------|----------------------------|----------------------------|-----------------------------------|
| DESCRIPTION           |                                 | IST I FITHENS MAY   | 157 15 TOOMS 24C         | BNO /F THINK MY                          | BNO IN TENNE SAC                 | WAVE TOND | BRINGREY ORC (See NOTE)        | ANTENNA BROMOCAST (ON GANG) | 22-468 BRONDCAST MODER | SHOP WAY'S OK (NE NO'S) | 22-305 SHOOT WAVE DETECTED  | PALKE BAND OSC (SEE NOTE)    |                                       |                             |                          |                         | NOTE - TRINSMERS F.KON     | MOUNTED ON BAKELITE        | 57701 PARCT N. 822-824            |
| CMC PART              |                                 |                     |                          |                                          |                                  |           |                                |                             | 22-460                 |                         | 22.305                      |                              |                                       |                             |                          |                         |                            |                            |                                   |
| 0000                  |                                 | 7                   | 6.                       | U                                        | O                                | 4         | ų                              | 15                          | 1                      | ¥                       | 7                           | >                            |                                       |                             |                          |                         |                            |                            |                                   |
|                       | 76 71                           |                     |                          |                                          |                                  |           |                                |                             |                        |                         |                             |                              |                                       |                             |                          |                         |                            |                            |                                   |
| DESCRIPTION           | 2007 P-13 63-863 VOLUME CONTROL | I MEGOHM MOUNTED IN | TUNING TUBE BASE         |                                          | 1-6204 ANTENNACOL & SHIELD ASSAN |           | 5-6295 COK. CONLE SYIELD MOREN | 20-196 COMPENSATING COK     | 20-164 WAVE TAND       |                         | 18-181 BAND SELECTOR SWITCH | F 536 157 1.9 TANN'S ROOMERS | 5-637 8 44 1. F. THAN S. CAP. M.C. P. | -6224 TOWE CONTROL SK ASSEN | AUTOMOTIC TOWING SWITCH  | - 09-05 - 1/1- 50-00 -  | PRESENTANS ALLINORES 25~   | 100-56 MLOT LIGHT, 251-63V | SPEAKED TOWNS                     |
| DIAG PART             | 63-905                          |                     |                          |                                          | 5-6204                           |           | 5-6295                         | 20-196                      | 30-164                 |                         | 18/-98                      | 96.636                       | 289-56                                | 1-6224                      | 85-152                   | 25-56                   | 35.57                      | 05.001                     |                                   |
| D/A6                  | 6-19                            | 8-15                |                          | \                                        |                                  | N         |                                | en,                         | A                      | 6                       | 0                           | N                            | 0                                     | 9                           | ż                        | 1                       | 5/                         | 13                         | 14                                |
|                       | 1000                            | 6001 4-15           | 4 30V                    | 3501                                     | Ī                                |           | Ī                              | 1/4 1/4                     | 1/4 1/4                | 14 11                   | 1 1/2                       | 11                           | Ī                                     | 16 11                       | 16 10                    | 42                      | #2                         | 1/4 1/4                    |                                   |
| DESCRIPTION           | 08 MFC                          | OOS MED             | 12 MED ELECTROLYTIC 450V | 100 C-85 22-7/9 16 MID ELECTROLYTIC 353V |                                  |           |                                |                             | 33 M OHM               | 4 TOM CHIM              |                             | 63-680 10MOHM                |                                       | 100 P.7 69.27/ / MEGONIN    | WON P-8 68-685 220 MONIN | DOV P-9 61-296 220M ONM | NAON 001 68-585 100 M ONIN | 8001 P-11 65-591 22 M CMM  | 600 P-12 61.086 3 SECTION CONDONN |
| N.S.                  | 257-22 22-48                    | 709-                | 100 V C-26 22-7/8        | 5-7/9                                    |                                  |           |                                | 43-62/                      | 265-69                 | 600r P.3 63-507         | 3-94                        | 3-680                        |                                       | 1.271                       | 3-655                    | 962-1                   | 1.585                      | 1-59/                      | 1.004                             |
| 140                   | 217-22 22-7                     | -23 2               | -24 2                    | -85 2                                    |                                  |           |                                | 0.1                         | 2 8-0                  | 9. 8-4                  | 7                           | 9 50                         |                                       | 0-7 6                       | 0 80                     | 0.0 6                   | 9 and                      | 9 11-0                     | 7 3/0                             |
| 3                     | 3 100                           | 600r C-23 22-692    | Surce                    | 2 1000                                   | 1007                             | 1002      |                                | _                           |                        | 1000 X                  | 800x Pet 63-961             | 100x 10.5                    | 100                                   | 1000                        | KUON X                   | 1001                    | 1000                       | LOOS                       | 1 1000                            |
| DESCRIPTION 2000 MAST | TWEND VIPCOUT                   |                     | 0                        | . I MED                                  | . 05 MFO.                        |           | THIMMERCOND                    | CONDENTINE CONC             | CHILL FILED PRODER     | GOEMAO.                 | S CANSO.                    | 6 CAN SECOND                 | 600/5 MAYO                            | 2 NAFO                      | . 0005 MED               | . 006 MFO               |                            | SW/-                       | C-90 22-448 DOLANCO               |
| 100                   | 2-7/7                           | 29/-2               | 13-127                   | 88-170                                   | 22-2/2                           | 22-250    | 82-50                          | 22-740                      | 100                    | C-11 22-358             | C-18 22-387                 | 32-182                       | 0-14 12-470                           | C-15 22-185                 |                          |                         | le.                        | 0-18 82-190                | 22-444                            |
| \$ <                  | 0.0                             | 18                  | -9                       | -                                        |                                  |           |                                |                             |                        |                         |                             |                              |                                       |                             |                          | 6-17                    |                            |                            |                                   |

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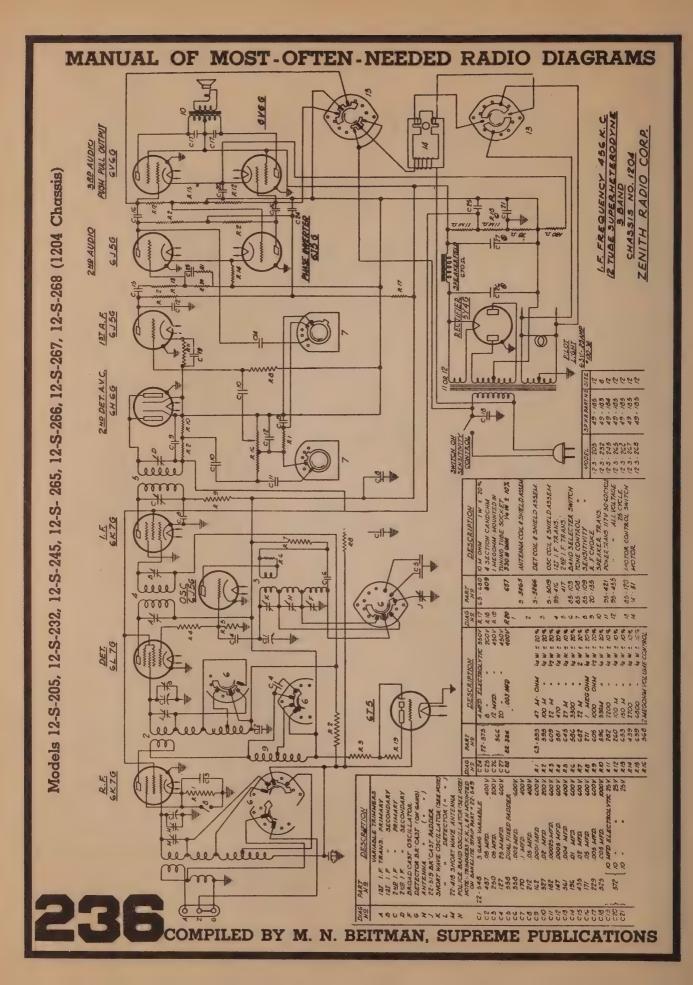
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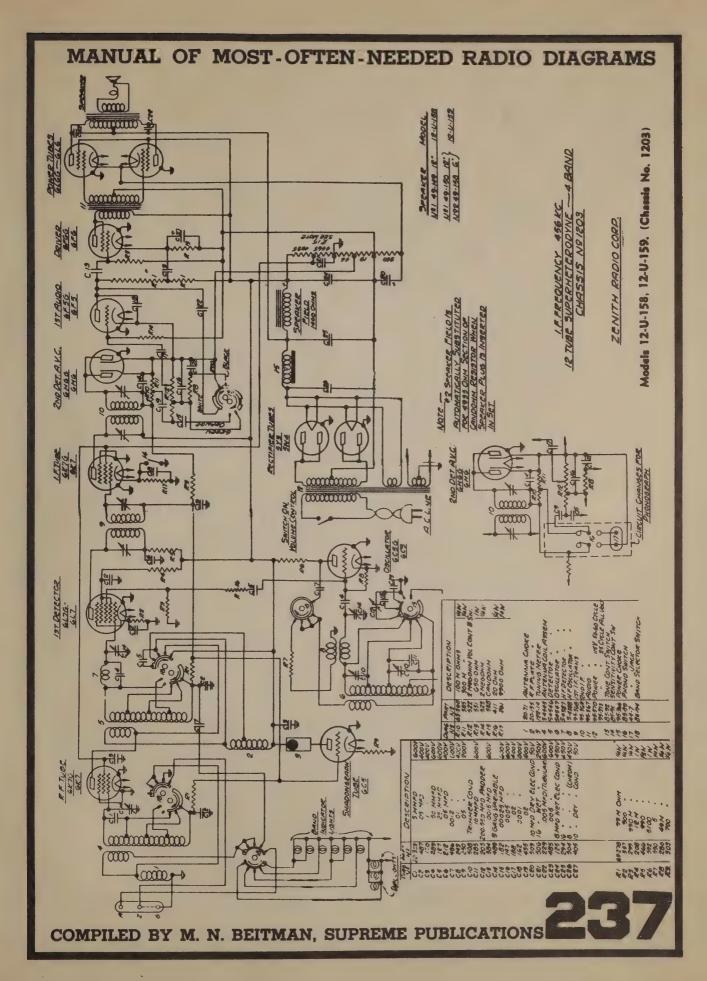


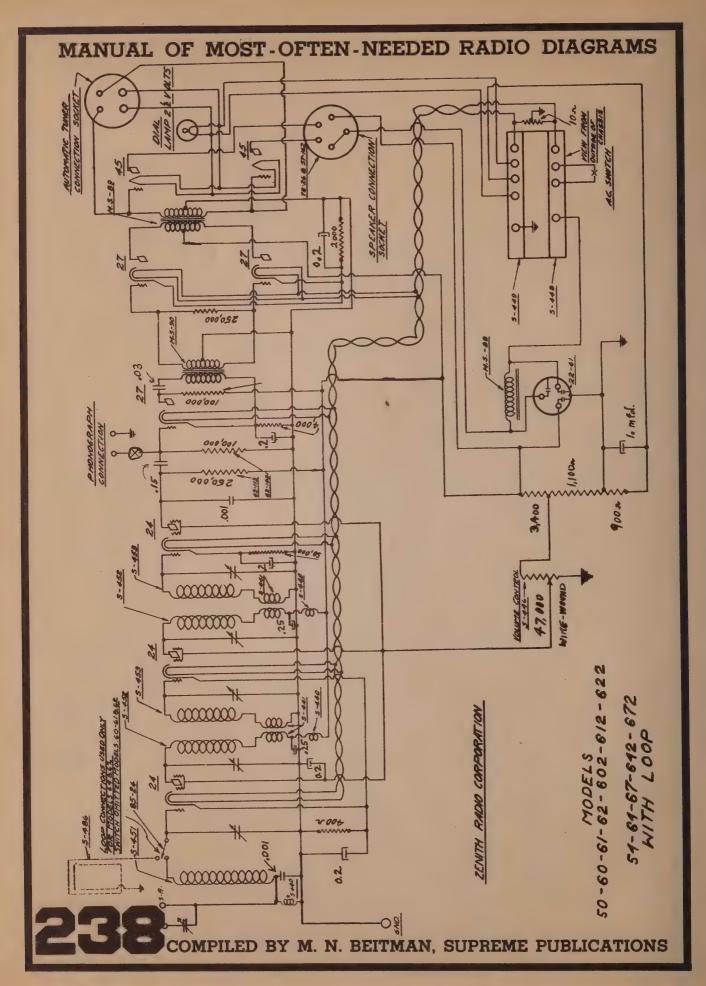


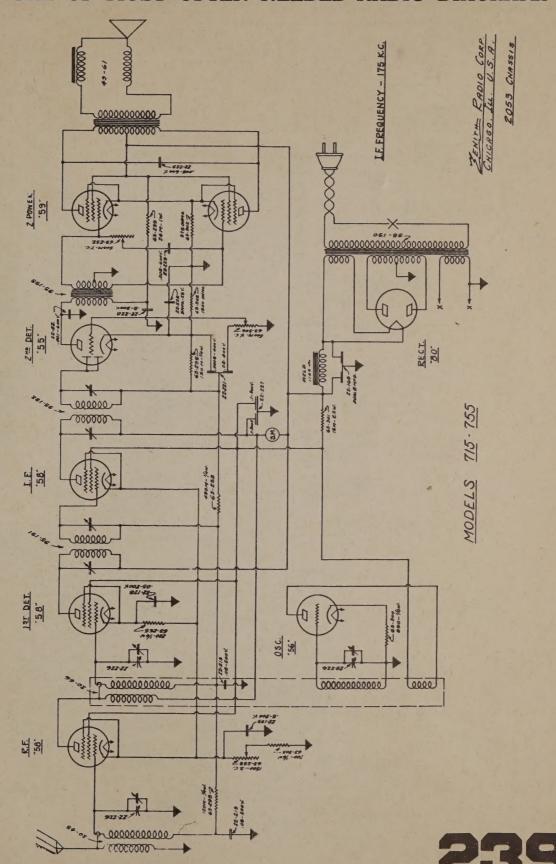
# MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS 265 EE PE 00000000 000000000 RECT 5 Y3 - 524 mmm (..... mmmo COLUMN TO THE PARTY OF THE PART 52 S mino (WWWWW) mo = 22445 22.439 22.439 25.250 25.290 25.290 25.290 25.290 25.290 25.290 25.290 25.290 25.290 6 amos Lam 0000000

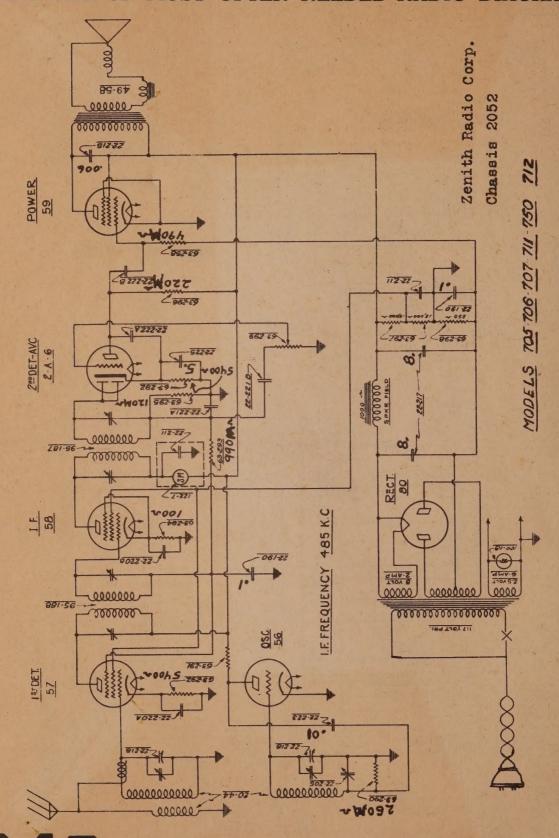
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